Series 1962, No. 3 Issued September 1965

SOIL SURVEY

Calhoun County Mississippi

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
MISSISSIPPI AGRICULTURAL EXPERIMENT STATION

HOW TO USE THE SOIL SURVEY REPORT

THIS SOIL SURVEY of Calhoun County will serve several groups of readers. It will help farmers in planning the kind of management that will protect their soils and provide good yields; assist engineers in selecting sites for roads, buildings, and other structures; aid those interested in managing woodland; and add to our knowledge of soil science.

Locating Soils

Use the index to map sheets at the back of this report to locate areas on the large map. The index is a small map of the county on which numbered rectangles have been drawn to show where each sheet of the large map is located. When the correct sheet of the large map has been found, it will be seen that boundaries of the soils are outlined, and that there is a symbol for each kind of soil. All areas marked with the same symbol are the same kind of soil, wherever they occur on the map. The symbol is inside the area if there is enough room; otherwise, it is outside the area and a pointer shows where the symbol belongs.

Suppose, for example, an area on the map has the symbol DuB2. The legend for the detailed map shows that this symbol identifies Dulac silt loam, 2 to 5 percent slopes, eroded. This soil and all others mapped in the county are described in the section "Descriptions of Soils."

Finding Information

This report contains sections that will interest different groups of readers, as well as some sections that may be of interest to all.

Farmers and those who work with farmers can learn about the soils in the section "Descriptions of Soils" and then turn to the section "Use and Management of Soils." In this way, they first identify the soils on their farm and then learn how these soils can be managed and what yields can be expected. The "Guide to Mapping Units, Capability Units, and Woodland Suitability Groups," at the back of the report will simplify use of the map and report. This guide lists each soil and land type mapped in the county, and the page where each is described. It also lists, for each soil and land type, the capability unit and woodland suitability group, and the pages where each of these is described.

Foresters and others interested in woodland can refer to the subsection "Managing Woodland." In that subsection the soils in the county are grouped according to their suitability for trees, and factors affecting the management of woodland are explained.

Engineers will want to refer to the subsection "Engineering Uses of Soils." Tables in that subsection show characteristics of the soils that affect engineering.

Scientists and others who are interested will find information about how the soils were formed and how they were classified in the section "Genesis, Classification, and Morphology of Soils."

Students, teachers, and other users will find information about soils and their management in various parts of the report, depending on their particular interest. Those not familiar with the county may be especially interested in the section "General Soil Map," where broad patterns of soils are described. They may also be interested in the section "General Nature of the County," which describes the physiography, drainage, and climate, and gives some information about the organization of the county, the kinds of farms, principal crops, and community facilities.

* * * * *

Fieldwork for this survey was completed in 1962. Unless otherwise indicated, all statements in the report refer to conditions in the county at that time. The soil survey of Calhoun County was made as part of the technical assistance furnished by the Soil Conservation Service, U.S. Department of Agriculture to the Calhoun County Soil and Water Conservation District.

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SOIL SURVEY OF CALHOUN COUNTY, MISSISSIPPI

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UNITED STATES DEPARTMENT OF AGRICULTURE IN COOPERATION WITH THE MISSISSIPPI AGRICULTURAL EXPERIMENT STATION

CALHOUN COUNTY is located in north central Mississippi (fig. 1). It is an irregular, rectangular area of approximately 592 square miles, or 378,880 acres. The maximum east-west width is about 21 miles, and the maximum north-south length is about 30 miles. Pittsboro, the county seat, is about 125 miles northeast of Jackson, Mississippi, the State capital.

The county is almost entirely agricultural. Cotton is the main crop, but corn, hay, sweetpotatoes, oats, and soybeans are also important crops. The farms are increasing in size and are producing more livestock. More than half the acreage is in commercial forest.

The county has a moist climate; the average yearly rainfall is 54 inches. More than half of the rainfall comes during the winter and spring. The winters are mild and the summers are warm and humid.

Most of the soils are low in content of organic matter, have low to moderate natural fertility, and are acid.

How the Soil Survey Was Made

Soil scientists made this survey to learn what kinds of soils are in Calhoun County, where they are located, and how they can be used.

They went into the county knowing they likely would find many soils they had already seen, and perhaps some they had not. As they traveled over the county, they observed steepness, length, and shape of slopes; size and speed of streams; kinds of native plants or crops; and many facts about the soils. They dug or bored many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down to the material that has not been changed much by leaching or by roots of plants.

The soil scientists made comparisons among the profiles they studied, and they compared these profiles with those in counties nearby and in places more distant. They classified and named the soils according to nationwide uniform procedures. To use this report efficiently, it is necessary to know the kinds of groupings most used in a local soil classification.

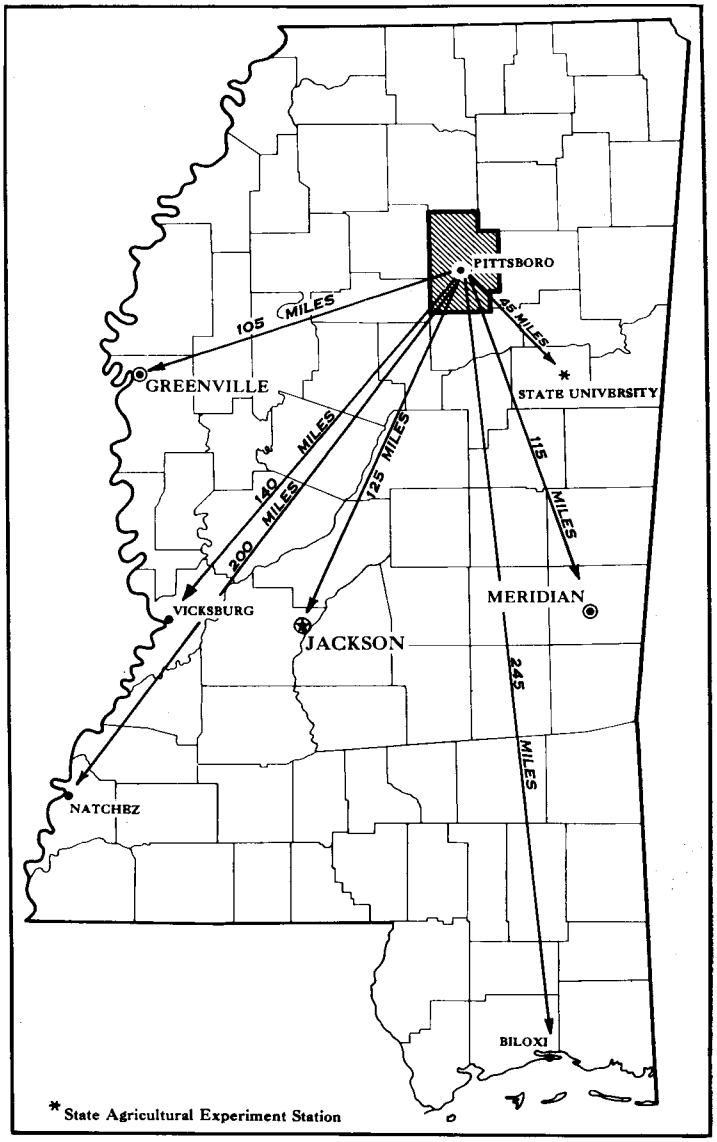

Figure 1.—Location of Calhoun County in Mississippi.

Soils that have profiles almost alike make up a soil series. Except for different texture in the surface layer, all the soils of one series have major horizons that are similar in thickness, arrangement, and other important characteristics. Each soil series is named for a town or other geographic feature near the place where a soil of that series was first observed and mapped. Providence series, for example, is named for the town of New Providence in Calloway County, Kentucky. All the soils in the United States having the same series name are essentially alike in natural characteristics.

Many soil series contain soils that differ in texture of their surface layer. According to such differences in texture, separations called soil types are made. Within a series, all the soils having a surface layer of the same texture belong to one soil type. Chastain silt loam and Chastain silty clay loam are two soil types in the Chastain series. The difference in texture of their surface layers is apparent from their names.

Some soil types vary so much in slope, degree of erosion, number and size of stones, or some other feature affecting their use, that practical suggestions about their management could not be made if they were shown on the soil map as one unit. Such soil types are divided into phases. The name of a soil phase indicates a feature that affects management. For example, Providence silt loam, 2 to 5 percent slopes, eroded, is one of several phases of Providence silt loam, a soil type that ranges from gently sloping to strongly sloping.

After a guide for classifying and naming the soils had been worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, trees, and other details that greatly help in drawing boundaries accurately. The soil map in the back of this report was prepared from the aerial photographs.

The areas shown on a soil map are called mapping units. On most maps detailed enough to be useful in planning management of farms and fields, a mapping unit is nearly equivalent to a soil type or a phase of a soil type. It is not exactly equivalent, because it is not practical to show on such a map all the small, scattered bits of soil of some other kind that have been seen within an area that is dominantly of a recognized soil type or soil phase.

Soils of two or more series may be mapped in one unit if they are so nearly alike in slope, stoniness, or some other dominant characteristic that mapping them separately would add little information to the soil survey. This kind of unit is an undifferentiated group, such as the Cuthbert, Dulac, and Ruston soils.

Also, in most mapping, some areas are so frequently worked by wind and water that they cannot be called soils. These areas are shown on a soil map like other mapping units, but they are given descriptive names, such as Gullied land or Mixed alluvial land, and are called land types rather than soils.

While a soil survey is in progress, samples of soils are taken, as needed, for laboratory measurements and for engineering tests. Laboratory data from the same kinds of soils in other places are assembled. Data on yields of crops under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soils. Yields under defined management are estimated for all the soils.

General Soil Map

After study of the soils in a locality and the way they are arranged, it is possible to make a general map that shows several main patterns of soils. Each kind of pattern is called a soil association. Such a map is the colored general soil map in the back of this report. Each association, as a rule, contains a few major soils and several minor soils, in a pattern that is characteristic although not strictly uniform.

The soils within any one association are likely to differ in some or in many properties; for example, slope, depth, or natural drainage. Thus, the general soil map shows, not the kind of soil at any particular place, but several distinct patterns of soils. Furthermore, each pattern contains several kinds of soils.

Each soil association is named for the major soil series in it. The major soils of one soil association may also be present in other associations in different patterns and proportions.

The general map is useful to people who want a general idea of the soils, who want to compare different parts of a county, or who want to know the possible location of good-sized areas suitable for a certain kind of farming or other land use.

Five soil associations are described here and are shown on the general soil map. Two consist of flood plains along the major streams. One contains the poorly drained and somewhat poorly drained soils of the Thin Loess Flatwoods in the eastern part of the county. The other two consist of sloping to very steep soils on ridges and side slopes throughout the county.

1. Wilcox-Falkner-Tickfaw association: Somewhat poorly drained to poorly drained soils on uplands

This association consists of nearly level flats and moderately sloping hills. In places, however, the hills are strongly sloping or steep. The association is in the Thin Loess Flatwoods section on the eastern border of the county and makes up about 4 percent of the total county area.

The dominant soils, the Wilcox, Bude, Falkner, and Tickfaw, are somewhat poorly drained or poorly drained. The Wilcox soils are mostly moderately sloping and strongly sloping. They have a brown to dark yellowish-brown silty clay loam surface layer, underlain by a silty clay or clay subsoil that ranges from mottled strong brown and red to mottled gray. The Tickfaw soil is on the large flats and has a dark-brown silt loam surface layer over a gray or mottled gray and yellowish-brown silt loam or silty clay subsoil. The subsoil is underlain by heavier clay at 12 to 16 inches. The Bude and Falkner soils, which are on the gently sloping hillsides, have a dark-brown to dark grayish-brown silt loam surface layer and a yellowish-brown silt loam or silty clay loam subsoil. The Bude soil has a brittle pan (fragipan) at a depth of about 18 inches, and the Falkner has a clay layer.

The Wilcox soils make up about 22 percent of this association, the Tickfaw 16 percent, the Falkner 16 percent, and the Bude 16 percent. Minor soils, the poorly drained Henry and Mayhew and the moderately well drained Providence and Dulac, make up about 30 percent of the association.

Almost half of this association is in trees, about one-third is in pasture, and about one-fourth is cultivated. Sweetpotatoes and cotton are the main crops. Most of the farms are small, are moderately productive, and are farmer owned. About half the soils in the association are suited to cultivation, but drainage, fertilizer, and lime are necessary for good plant growth.

2. Falaya-Waverly-Collins association: Silty soils on flood plains

This association consists of areas along the Sabougla, Shutispear, Persimmon, Cowpen, Yoda, and smaller creeks in the county. It makes up 22 percent of the county acreage. Most areas are nearly level, but the relief ranges from nearly level to gently sloping. Usually, the areas are flooded several times a year. These soils are silty and have formed in silty material deposited by floods.

The Falaya soils are on the nearly level bottoms and are somewhat poorly drained. They have a dark-brown silt loam surface layer and a dark yellowish-brown to brown silt loam or silty clay loam subsoil. These soils are free of gray mottling to a depth of 6 inches or more. The Waverly soils are on the low, broad flats or depressions and are poorly drained. They have a dark grayish-brown or mottled gray silt loam surface layer and a gray or mottled gray silt loam or silty clay loam subsoil. The moderately well drained Collins soils are in strips along the creek channels and streams and are mottled at a depth below 16 inches. They have a dark-brown silt loam surface layer and a dark yellowish-brown or brown silt loam or silty clay loam subsoil.

About half of this association consists of Falaya soils; 20 percent, Waverly; and 20 percent, Collins. Minor soils are the Hatchie, Freeland, and Almo soils, and Mixed alluvial land.

Nearly all of this association has been cleared and is used for cotton, corn, soybeans, hay, and pasture. Farms range from small to large and are farmer owned.

Most of the soils are well suited to cultivated crops. The Collins and Falaya are the most productive soils in the county. Drainage, fertilizer, and lime are necessary for high yields. Some of the lower areas are better suited to pasture and hay.

3. Falaya-Chastain-Urbo association: Silty and clayey soils on flood plains

This association is in nearly level to gently sloping areas along the Yalobusha and Skuna Rivers and the Topashaw, Cook, and Cain Creeks. The soils formed in sediments washed from silty soils and soils that formed in beds of acid heavy clay material. Most of these soils are flooded several times a year, and they receive fresh deposits. The association makes up 18 percent of the county area.

The Falaya and Urbo soils are on the higher elevations near the streams or channels and on the narrow bottoms. These soils are somewhat poorly drained and are free of gray mottling to a depth of 6 inches or more. The Falaya soils have a dark-brown silt loam surface layer and a dark yellowish-brown to brown silt loam or silty clay loam subsoil. The Urbo soils have a dark-brown to dark grayish-brown silty clay loam surface layer and a finer textured subsoil at a depth of 16 to 18 inches. The Chastain soils are poorly drained and are at the lower elevations. They have a gray or grayish-brown silt loam or silty clay loam surface layer and a gray subsoil that is silty clay or clay at a depth of 16 to 18 inches. The Chastain soils have gray mottling at less than 6 inches from the surface.

About 33 percent of this association consists of Falaya soils; 24 percent, Chastain; and 23 percent, Urbo. Minor soils are Hatchie, Collins, Freeland, Almo, and Mixed alluvial land.

Some of the best agricultural soils in the county are in this association. Most of the acreage has been cleared and is used for cotton, corn, soybeans, hay, and pasture. The farms are small to large and are mostly farmer owned. Drainage, fertilizer, and lime are necessary for high crop yields. As some of the lower areas are wet, they are not suited to cultivation. They produce good hay and pasture, however.

4. Cuthbert-Dulac-Ruston association: Soils on narrow ridges and steep side slopes

This association consists mainly of steep hills with long, narrow ridgetops. The ridgetops are gently to moderately sloping, and most of the side slopes are greater than 17 percent. Many intermittent and spring-fed streams dissect these rough, broken areas. The bottoms along the streams are narrow. They are generally less than 1,000 feet wide. The total area of this association is 54 percent of the county.

On the hillsides are the Cuthbert, Dulac, and Ruston soils, which are mapped as an undifferentiated group. The Cuthbert and Ruston soils have a fine sandy loam surface layer. The Cuthbert subsoil is stratifield clay and sand, whereas the Ruston subsoil is loamy. The Dulac soils in this group have a silty surface layer and a silty clay loam subsoil.

On the ridgetops are Providence and Dulac soils. The Providence soils, like the Dulac, have a silty surface layer and a silty clay loam subsoil. In the narrow bottoms along the streams are the poorly drained Waverly and the somewhat poorly drained Falaya soils.

The undifferentiated group of Cuthbert, Dulac, and Ruston soils occupy about 70 percent of the association, other Dulac soils 15 percent, and Providence soils and Gullied land 15 percent.

Most of this association consists of forest land, much of which is owned by lumber companies. The farms are 40 to 160 acres in size. A typical farm consists of small, cultivated fields in the bottoms and on the ridges, and pastures on the steeper slopes, although some ridges are used for pasture. Most farmers grow cotton and corn and raise a few head of livestock.

This association is well suited to pines and hardwoods. The soils in the bottoms and on the ridges are suitable for cultivation, but applications of lime and fertilizer are necessary for good yields. Erosion is a hazard on the cultivated ridges, and flooding is a hazard in the bottoms.

5. Orangeburg-Eustis association: Steep to very steep soils on ridges and slopes

Predominantly steep to very steep hills, narrow winding ridgetops, and narrow stream bottoms are characteristic of this association. The drainage pattern is branching or dendritic. This association is in the northwestern part of the county and makes up about 2 percent of the county area.

On the hillsides are the Orangeburg and Eustis soils, which are mapped as an undifferentiated group. The Orangeburg soil has a very dark gray to gray fine sandy loam surface layer over a dark-red sandy clay loam subsoil, underlain by sandy loam or loamy sand. The Eustis soil has a dark grayish-brown to dark-brown loamy sand surface layer and a dark-brown to yellowish-red loamy sand or sand subsoil.

The soils on the ridgetops are Providence and Dulac. They are moderately well drained and have a silty surface layer and a silty clay loam subsoil. In the narrow bottoms along the streams are the poorly drained Waverly and somewhat poorly drained Falaya soils. Cuthbert, Dulac, and Ruston soils are on a few of the steep slopes and are mapped as an undifferentiated group.

Orangeburg and Eustis soils comprise about 72 percent of the area, Providence 8 percent, Falaya 6 percent, Waverly 6 percent, Cuthbert, Dulac, and Ruston soils 5 percent, and Collins and Gullied land 3 percent.

Most of this soil association is in forest, and lumber companies have fairly large holdings in it. The few people in these areas live along the main roads on the ridgetops and in the narrow valleys. Most of the farms are about 40 to 160 acres in size. Cotton and corn are the main crops and are grown on the narrow ridgetops and in the bottoms. These soils are suited to cultivation, but lime and fertilizer are necessary for good yields. Erosion is a hazard on the cultivated ridges, and flooding is a hazard in the bottoms. These soils are well suited to pines and hardwoods.

Descriptions of Soils

In this section, the soil series of Calhoun County are described in alphabetic order. Following the description of each soil series is a description of each mapping unit, or soil, in that series. The first mapping unit described is considered typical of the series. Each soil description gives some information about the present use of the soil and its suitability for crops. To get full information about any one soil, it is necessary to read the description of the series as well as the description of the soil.

Following the name of each soil, there is a symbol in parentheses. This symbol identifies the soil on the detailed soil map. At the end of each soil description, the capability unit and the woodland suitability group in which the soil has been placed are in parentheses. The page on which each of these is described is given in the "Guide to Mapping Units, Capability Units, and Woodland Suitability Groups" at the back of the report.

Those who want detailed, technical descriptions of the soil series can refer to the section "Genesis, Classification, and Morphology of Soils." Many terms used in describing the soils are defined in the Glossary.

Table 1 lists the mapping units and the approximate acreage and proportionate extent of each unit in the county.

Almo Series

In the Almo series are nearly level, poorly drained soils with a fragipan. They were formed in silty loess and sandy Coastal Plain materials. The surface layer is dark-brown to dark grayish-brown silt loam, and the subsoil is mottled gray silt loam or silty clay loam. The fragipan, a compact, brittle layer in the subsoil, is about 18 inches from the surface.

These soils have low natural fertility, contain little organic matter, and are strongly acid.

Almo soils are adjacent to or near the Hatchie, Freeland, Waverly, and Chastain soils. They are grayer and more poorly drained than the Hatchie and Freeland soils. They have drainage similar to that of the Chastain and Waverly soils but have a fragipan.

Almo soils are on the low stream terraces along the Yalobusha, Skuna, Topashaw, and smaller streams throughout the county. Their total area is a little more than 1 percent of the county. The native vegetation consists of mixed hardwoods and an undergrowth of brush, briers, and vines. These soils are best suited to pasture or trees.

Almo silt loam (Al).—This soil is poorly drained and is on stream terraces. It has a friable to firm, gray silt loam subsoil. The major horizons are—

0 to 8 inches, dark-brown, friable silt loam with gray mottles.
8 to 15 inches, gray, friable, heavy silt loam with yellowish-brown and strong-brown mottles.
15 to 21 inches, gray silt loam with yellowish-brown and brown mottles; compact and brittle (fragipan).
21 to 64 inches, gray to mottled gray, firm silty clam loam.

The surface layer ranges from 6 to 8 inches in thickness. Cultivated areas have a dark-brown plow layer of silt loam. The subsoil ranges from 7 to 12 inches in thickness, from mottled gray to gray in color, and from silt loam to silty clay loam in texture. Depth to the fragipan ranges from 14 to 18 inches. Small areas of Hatchie silt loam and Waverly silt loam were included in the mapping.

This soil contains little organic matter, and it crusts after hard rains but is easy to keep in good tilth. It is acid and has low natural fertility, but the response of crops to fertilizer and lime is moderate. A fluctuating water table makes this soil wet in winter and spring and dry in summer and fall. Root and water penetration are retarded by the fragipan.

This soil is well suited to hay, pasture, and trees. (Capability unit IIIw–2; woodland suitability group 5)

Bude Series

This series consists of gently sloping to moderately sloping, somewhat poorly drained soils of the uplands. These soils have a fragipan. They formed in a thin mantle of loess overlying acid, Coastal Plain material. Where these soils are not eroded, their surface layer is dark-brown silt loam, and their subsoil is yellowish-brown silt loam or silty clay loam. The fragipan is about 18 inches from the surface. Underlying the subsoil is a layer of loam, silt loam, silty clay loam, silty clay, or fine sandy loam.

These soils have moderate to low natural fertility, contain little organic matter, and are very strongly acid.

Bude soils are adjacent to or near the Providence, Dulac, Falkner, and Henry soils. They are not so well drained or so brown as the Providence and Dulac soils. They are similar to the Falkner soils in drainage and color but have a fragipan. They are better drained and have a browner subsoil than the Henry soils.

TABLE 1.—*Approximate acreage and proportionate extent of the soils*

Soil	Area	Extent	Soil	Area	Extent
	Acres	*Percent*		*Acres*	*Percent*
Almo silt loam	4, 681	1. 2	Gullied land	29, 791	7. 9
Bude silt loam, 2 to 5 percent slopes	1, 120	. 3	Hatchie silt loam, 0 to 2 percent slopes	5, 974	1. 6
Bude silt loam, 2 to 5 percent slopes, eroded	1, 276	. 3	Hatchie silt loam, 2 to 5 percent slopes	2, 125	. 6
Bude silt loam, 5 to 8 percent slopes	319	. 1	Hatchie silt loam, 2 to 5 percent slopes, eroded	4, 879	1. 3
Chastain silty clay loam	7, 500	2. 0	Henry silt loam	920	. 2
Chastain silt loam	8, 097	2. 1	Mayhew silty clay loam	540	. 1
Collins silt loam	13, 020	3. 4	Mixed alluvial land	1, 570	. 4
Collins silt loam, local alluvium	1, 654	. 4	Orangeburg and Eustis soils, 17 to 35 percent slopes	6, 419	1. 7
Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes	2, 014	. 5	Providence silt loam, 2 to 5 percent slopes, eroded	630	. 2
Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes, severely eroded	4, 437	1. 2	Providence silt loam, 2 to 5 percent slopes, severely eroded	510	. 1
Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes	111, 236	29. 4	Providence silt loam, 5 to 8 percent slopes, eroded	1, 989	. 5
Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes, severely eroded	22, 932	6. 1	Prividence silt loam, 5 to 8 percent slopes, severely eroded	4, 989	1. 3
Dulac silt loam, 2 to 5 percent slopes, eroded	982	. 3	Providence silt loam, 8 to 12 percent slopes, eroded	452	. 1
Dulac silt loam, 2 to 5 percent slopes, severely eroded	1, 096	. 3	Providence silt loam, 8 to 12 percent slopes, severely eroded	2, 032	. 5
Dulac silt loam, 5 to 8 percent slopes, eroded	4, 600	1. 2	Tickfaw silt loam	3, 210	. 8
Dulac silt loam, 5 to 8 percent slopes, severely eroded	13, 507	3. 6	Urbo silty clay loam	15, 075	4. 0
Dulac silt loam, 8 to 12 percent slopes, eroded	2, 354	. 6	Waverly silt loam	15, 864	4. 2
Dulac silt loam, 8 to 12 percent slopes, severely eroded	7, 179	1. 9	Wilcox silty clay loam, 2 to 5 percent slopes, eroded	185	(1)
Falaya silt loam	41, 802	11. 0	Wilcox silty clay loam, 2 to 5 percent slopes, severely eroded	345	. 1
Falaya silt loam, local alluvium	17, 867	4. 7	Wilcox silty clay loam, 5 to 8 percent slopes, eroded	305	(1)
Falkner silt loam, 2 to 5 percent slopes	1, 075	. 3	Wilcox silty clay loam, 5 to 8 percent slopes, severely eroded	1, 465	. 4
Falkner silt loam, 2 to 5 percent slopes, eroded	1, 385	. 4	Wilcox silty clay loam, 8 to 12 percent slopes, severely eroded	1, 425	. 4
Falkner silt loam, 5 to 8 percent slopes, eroded	870	. 2			
Freeland silt loam, 2 to 5 percent slopes, eroded	3, 379	. 9			
Freeland silt loam, 2 to 5 percent slopes, severely eroded	2, 260	. 6			
Freeland silt loam, 5 to 8 percent slopes, severely eroded	1, 544	. 4	Total	378, 880	100. 0

[1] Less than 0.1 percent.

The Bude soils are mainly in the Thin Loess Flatwoods and their total area is less than 1 percent of the county. Their native vegetation consists of oak, hickory, and sweetgum, and an undergrowth of brush, briers, vines, and grasses. Most of the acreage is cultivated or in pasture. These soils are better suited to grass than to crops.

Bude silt loam, 2 to 5 percent slopes (BuB).—This is a somewhat poorly drained soil of the uplands. It has a friable to firm, yellowish-brown silt loam subsoil. The major horizons are—

0 to 7 inches, dark-brown, very friable silt loam.
7 to 16 inches, yellowish-brown, very friable silt loam.
16 to 35 inches, mottled yellowish-brown, pale-brown, and light-gray silty clay loam that is compact and brittle (fragipan).
35 to 60 inches, mottled gray and yellowish-brown, heavy silty clay loam that is very firm.

The silt loam surface layer ranges from dark brown to dark grayish brown and averages 7 inches in thickness. The subsoil ranges from 11 to 13 inches in thickness, from yellowish brown to brownish yellow in color, and from silt loam to silty clay loam in texture. Depth to the fragipan ranges from 18 to 20 inches. Small areas of Providence and Henry silt loams were included in the mapping.

This soil is medium acid, has moderate natural fertility, and contains little organic matter. Crops respond well to applications of lime and fertilizer. The soil works easily, but a plowpan forms readily and the soil crusts and packs when bare. Root and water penetration are retarded in the fragipan. In spring, seedbed preparation is often delayed because the soil is too wet, and during dry seasons, the soil is droughty.

This soil is suited to most of the commonly grown crops. (Capability unit IIIw–1; woodland suitability group 3)

Bude silt loam, 2 to 5 percent slopes, eroded (BuB2).—The surface layer of this soil normally is dark-brown, friable silt loam 4 or 5 inches thick. About 50 percent of the surface, however, has a yellowish-brown cast because the upper subsoil has been mixed with the original surface soil in plowing. Most areas are sheet eroded but are not extensively gullied. A few areas have many shallow gullies and a few deep ones. The subsoil is brownish-yellow or yellowish-brown silt loam or silty clay loam. The fragipan is at a depth of 15 to 18 inches.

The soil is medium acid, has moderate natural fertility, and contains little organic matter. The response of crops to fertilizer and lime is good. The shallow depth to the fragipan usually limits the available moisture capacity. In spring seedbed preparation is often delayed because the soil is too wet, and during dry seasons the soil is droughty. It works easily but crusts and packs when bare.

This soil is suited to most of the commonly grown crops. (Capability unit IIIw–1; woodland suitability group 3)

Bude silt loam, 5 to 8 percent slopes (BuC).—About 60 percent of this soil has a brown to dark-brown, friable silt loam surface layer 7 inches thick. The rest of it has a surface layer 4 or 5 inches thick and a few shallow gullies in places. In these areas where the surface layer is thin, plowing exposes the yellowish-brown subsoil. The fragipan is about 18 inches from the surface. The subsoil is brownish-yellow or yellowish-brown silt loam or silty clay loam.

This soil is medium acid, has moderate natural fertility, and contains little organic matter. The response to fertilizer and lime is good. Root and water penetration are retarded in the fragipan. In spring, seedbed preparation is often delayed because the soil is too wet, and during dry seasons, the soil is droughty. This soil works easily but crusts and packs when bare. If the soil is used for crops, erosion is a serious hazard.

About 75 percent of the soil has been cleared and used for pasture and crops. It is suited to some of the commonly grown crops and to pasture and trees. (Capability unit IIIe–2; woodland suitability group 3)

Chastain Series

The Chastain series consists of nearly level, poorly drained soils formed in materials that washed from thin loess and from soils derived chiefly from thick beds of acid heavy clay. The Chastain soils have a gray or grayish-brown surface layer that is silt loam or silty clay loam. The upper subsoil is gray silty clay loam or silty clay over clay at a depth of about 18 inches.

These soils contain little organic matter, have low natural fertility, and are strongly acid.

The Chastain soils are next to or near the Urbo and Collins soils. Unlike these soils, however, they are poorly drained and have gray mottles within 6 inches of the surface.

The Chastain soils are on first bottoms along streams draining the Thin Loess Flatwoods, and their total area is a little more than 4 percent of the county. The native vegetation consists mainly of brush, briers, and vines; also some oak, gum, hickory, and ash.

Chastain silt loam (Ca).—This poorly drained soil is on bottom land. It has a friable to firm, light brownish-gray silty clay loam to silty clay subsoil. The major horizons are—

0 to 8 inches, mottled grayish-brown, friable silt loam.
8 to 17 inches, light brownish-gray, friable silty clay loam.
17 to 60 inches, light brownish-gray to gray firm silty clay.

The surface layer ranges from gray to mottled gray and brown. The subsoil is solid gray or mottled and ranges from silty clay loam to clay. Depth from the surface to the heavier clay ranges from 16 to 20 inches, but in a few areas the clay is deeper or is absent. Small areas of Chastain silty clay loam and Urbo silty clay loam were included in the mapping.

Chastain silt loam is strongly acid, contains little organic matter, and has low natural fertility. The response of crops to lime and fertilizer is moderate. The soil is flooded several times during the year and is poorly drained. It is wet, does not warm up easily, and is hard to work.

About 70 percent of this soil has been cleared. It is best suited to pasture or trees. (Capability unit IVw–1; woodland suitability group 9)

Chastain silty clay loam (Ch).—This poorly drained soil is on bottom land. It has a firm, gray silty clay loam or silty clay subsoil. The major horizons are—

0 to 7 inches, mottled gray and brown, friable silty clay loam.
7 to 17 inches, gray, firm silty clay loam mottled with yellowish brown.
17 to 32 inches, gray, firm silty clay mottled with yellowish brown.
32 to 50 inches, gray, very firm clay mottled with yellowish brown.

The silty clay loam surface layer ranges in color from gray to mottled gray and brown. The subsoil is gray, or gray with mottles, and ranges from silty clay loam to clay. Depth from the surface to the clay ranges from 16 to 20 inches. Small areas of Urbo silty clay loam and Chastain silt loam were included in the mapping.

The soil is strongly acid, contains little organic matter, and has low natural fertility. Crops grown on it show moderate response to lime and fertilizer. The soil is wet and "cold natured" and is flooded several times a year. Because of the wetness and the surface texture, this soil tends to clod when plowed.

About 60 percent of this soil has been cleared. It is best suited to pasture and trees. (Capability unit IVw–1; woodland suitability group 9)

Collins Series

This series consists of moderately well drained soils formed in silty alluvium washed from loess. These soils are subject to frequent flooding and are receiving fresh deposits. Their surface layer is dark-brown silt loam, and their subsoil is dark yellowish-brown to dark-brown silt loam or silty clay loam mottled with gray below a depth of 16 inches.

These soils have moderate natural fertility, contain little organic matter, and are strongly acid.

The Collins soils are free of mottling to a depth of 16 inches or more and are better drained than the adjoining or nearby Urbo, Chastain, Falaya, and Waverly soils. They are coarser textured than the Urbo and Chastain soils.

The Collins soils occur in bottoms along small streams and on higher areas near old channels and the larger streams. Their total area is almost 4 percent of the county. The native vegetation consists mainly of oaks, sweetgum, blackgum, hickory, cottonwood, and ash and an undergrowth of brush, briers, and vines.

Most of the acreage is cultivated or in pasture. These soils are suited to most of the commonly grown crops, and yields are usually good.

Collins silt loam (Co).—This is a moderately well drained soil on bottoms. It has a friable, dark yellowish-brown to dark-brown silt loam subsoil. The major horizons are—

0 to 3 inches, dark-brown, friable silt loam.
3 to 8 inches, dark yellowish-brown, friable silt loam.
8 to 19 inches, dark-brown, friable silt loam.
19 to 32 inches, dark-brown, friable silt loam with many light brownish-gray mottles.
32 to 48 inches, mottled light brownish-gray, yellowish-brown, and dark yellowish-brown, friable silt loam.

Cultivated areas of Collins silt loam have a dark-brown to yellowish-brown plow layer of silt loam. The subsoil ranges from dark-brown to yellowish-brown silt loam or

silty clay loam. Small areas of Falaya silt loam were included in the mapping.

This soil has moderate natural fertility, contains little organic matter, and is strongly acid. The response of crops to fertilizer and lime is good. The soil works easily but crusts and packs.

Although crops are moderately damaged by flooding, this soil is one of the most productive in the county. It is well suited to all the commonly grown crops. (Capability unit IIw–1; woodland suitability group 10)

Collins silt loam, local alluvium (Cm).—This moderately well drained soil in bottom land has formed in alluvium washed from local areas. It occurs along narrow drainageways, in upland depressions, and at the foot of slopes bordering the flood plains.

The soil profile is like that of Collins silt loam but has a stratified surface layer from more recent, local sediments. The surface layer varies in color according to the color of the upland soils from which the materials were transported. A few areas of minor extent have sandy material in the profile, primarily at the surface. Also, a few areas have slopes of 3 or 4 percent. Small areas of Falaya silt loam were included in the mapping.

This soil is periodically flooded, although seldom during the summer. Most of the areas are small and are generally long and narrow. The use of large farm machinery is therefore limited. About 80 percent of the area has been cleared and used for crops and pasture, but recently some of it has reverted to trees.

Crops respond well to fertilizer and lime, and the soil is well suited to all the commonly grown crops. (Capability unit IIw–1; woodland suitability group 10)

Cuthbert Series

The Cuthbert series consists of strongly sloping to very steep, moderately well drained soils of the uplands. These soils developed in beds of clay that contain lenses of sand. Their surface layer is very dark gray or dark-brown fine sandy loam, and their subsoil is yellowish-red, red, or yellowish-brown sandy clay or sandy clay loam. They are strongly acid. In Calhoun County, Cuthbert soils occur only with Dulac and Ruston soils and are mapped with them in undifferentiated units.

Cuthbert, Dulac, and Rustons soils, 12 to 35 percent slopes (CrE).—This mapping unit consists of areas of Cuthbert, Dulac, and Ruston soils that occur together in such intricate patterns that they are mapped as an undifferentiated group of soils. The percentage and distribution of these soils vary in each mapped area. Most of the delineated areas have two of the soils, and some areas have all three. The topography of this undifferentiated group of soils is rough and dissected by drains.

Cuthbert fine sandy loam is a moderately well drained soil of the uplands. It has a subsoil of yellowish-red, firm sandy clay and friable sandy clay loam. The major horizons are—

0 to 6 inches, dark-brown, very friable fine sandy loam.
6 to 14 inches, yellowish-red, firm sandy clay.
14 to 21 inches, yellowish-red, friable sandy clay loam with yellowish-brown mottles.
21 to 44 inches, mottled reddish-yellow and yellowish-red, friable sandy loam in thin, horizontal strata or beds that contain a thin iron crust.

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Dulac silt loam is a moderately well drained soil of the uplands. It has a subsoil of friable, yellowish-red to strong-brown, friable silty clay loam. The major horizons are—

0 to 4 inches, dark-brown, friable silt loam.
4 to 22 inches, yellowish-red to strong-brown, friable silty clay loam.
22 to 29 inches, mottled yellowish-red, pale-brown, and yellowish-brown light silty clay loam that is compact and brittle (fragipan).
29 to 60 inches, mottled yellowish-red, strong-brown, and pinkish-gray to red, firm clay loam to clay.

Ruston sandy loam is a well-drained soil of the uplands. It has a friable, yellowish-red sandy clay loam to sandy loam subsoil. The major horizons are—

0 to 15 inches, dark-brown to yellowish-brown, very friable sandy loam.
15 to 35 inches, yellowish-red and red, friable sandy clay loam.
35 to 46 inches, yellowish-red, very friable sandy loam.
46 to 60 inches, yellowish-red, very friable sandy loam with thin, strong-brown strata of sand.

Cuthbert, Dulac, and Ruston soils vary in the color and texture of their surface layer and in the texture of their subsoil. The material underlying the subsoil is stratified sand to clay. Most areas of the soils in this mapping unit have not been materially affected by erosion, but slight erosion occurs in areas that have not been cleared. Sheet and gully erosion are severe in areas that have been cleared. In this mixed pattern of soils, infiltration and available moisture capacity are variable, as well as organic matter and natural fertility.

Included in the mapping are small areas on narrow ridgetops, where the soils are moderately well drained sandy clay loams that contain a pan layer.

Cuthbert, Dulac, and Ruston soils make up a little more than 37 percent of the total area of the county. The native vegetation consists of mixed hardwoods and pines, and an undergrowth of briers, vines, and grasses. These soils are best suited to trees. Only a small part of their acreage is used for crops. (Capability unit VIIe–2; woodland suitability group 2)

Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes (CrD).—These soils have essentially the same profile characteristics as the Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes. Most of their area is wooded and has been little affected by erosion. About 20 percent of the area has been cleared, however, and is moderately eroded. A few gullies occur in some areas. Included in the mapping are small areas on narrow ridgetops where the soils are moderately well drained sandy clay loams that contain a pan.

These soils vary in content of organic matter and in natural fertility. Their available moisture capacity ranges from low to moderate. They are not suitable for row crops, but in some of the less sloping areas they produce fair pasture if well managed. These soils are well suited to trees. (Capability unit IVe–4; woodland suitability group 2)

Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes, severely eroded (CrD3).—Erosion has removed all or nearly all the original surface layer of these soils, and the plow layer consists of the subsoil and remnants of the original surface layer. Rills and deep gullies are common in most fields. Runoff is rapid, and erosion is a severe hazard. Included in the mapping are small areas on the

narrow ridgetops where the soils are moderately well drained sandy clay loams that have a pan layer.

Nearly all the acreage has been cleared and used for crops and pasture at one time, but in recent years a large part has reverted to pines.

These soils are not suited to row crops, but in some of the less sloping areas they produce fair pasture if well managed. The soils are best suited to trees. (Capability unit VIe–3; woodland suitability group 2)

Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes, severely eroded (CrE3).—Erosion has removed all or nearly all the original surface layer of these soils. In cultivated areas the plow layer consists of the subsoil and remnants of the original surface layer. Rills and deep gullies are common in most fields. Runoff is rapid, and erosion is a severe hazard. Included in the mapping are small areas on the narrow ridgetops where the soils are moderately well drained sandy clay loams that contain a pan.

A large part of the total area of these soils was once cleared and used for pasture and row crops, but this has reverted to pine trees. Because they are steep and likely to erode, these soils are not suited to crops or pasture. They are suited to trees. (Capability unit VIIe–2; woodland suitability group 2)

Dulac Series

The Dulac series consists of moderately sloping to strongly sloping, moderately well drained soils with a fragipan. They have formed in a thin mantle of loess over acid clay of the Coastal Plain. Dulac soils have a dark grayish-brown or dark-brown silt loam surface layer and a strong-brown to yellowish-red silty clay loam subsoil. The silt loam or silty clay loam fragipan is about 25 inches beneath the surface and is underlain by clay.

These soils have moderate natural fertility, contain little organic matter, and are strongly acid.

The Dulac soils are adjacent to or near the Providence, Bude, Cuthbert, and Ruston soils. They are similar to the Providence soils in having a fragipan, but differ in having clay underlying the subsoil. They are browner and better drained than the Bude soils and are less well drained than the Ruston soils. Dulac soils differ from Cuthbert and Ruston soils by having formed in a thin mantle of loess over Coastal Plain material.

The Dulac soils on slopes of 2 to 12 percent are in small to fairly large areas throughout the county and are mapped as separate units. The total area of these soils is nearly 8 percent of the county. Some of the Dulac soils, however, are mapped in undifferentiated units with the Cuthbert and Ruston soils on slopes of 8 to 35 percent. The native vegetation is mainly mixed hardwoods and pine and an undergrowth of brush, vines, and grasses. The Dulac soils are suited to most of the commonly grown crops.

Dulac silt loam, 5 to 8 percent slopes, eroded (DuC2).—This is a moderately well drained soil of the uplands. It has a friable, strong-brown silty clay loam subsoil. The major horizons are—

0 to 6 inches, dark grayish-brown to brown, very friable silt loam.
6 to 18 inches, strong-brown, friable silty clay loam.
18 to 25 inches, strong-brown, heavy, compact silt loam mottled with yellowish brown and light yellowish brown.
25 to 38 inches, mottled yellowish-brown and pale-brown silty clay loam that is firm, compact, and brittle (fragipan).
38 to 60 inches, red, firm clay with pale-brown and yellowish-brown mottles.

The surface layer ranges from dark grayish brown to dark brown in color and from 4 to 6 inches in thickness. The brownish subsoil is exposed in most fields where the plow layer includes part of the subsoil. Small rills and shallow gullies are common. The subsoil ranges from 16 to 20 inches in thickness, from strong brown to yellowish brown in color, and from silt loam to silty clay loam in texture. Depth to the fragipan ranges from 20 to 24 inches.

Included in the mapping are severely eroded areas, which, in most fields, are as much as 10 to 20 percent of the acreage. Included also are small areas of Providence silt loam.

This soil is strongly acid, has moderate natural fertility, and contains little organic matter. The soil works easily, but it crusts and packs and erodes readily when bare. Where a plowpan has formed, plant roots and internal water movement are generally restricted to the first 8 to 10 inches of soil.

This soil occurs throughout the county, mainly on long, narrow ridgetops. About 60 percent of the acreage has been cleared and used for crops and pasture, but recently some of this has reverted to pines.

Crops respond well to fertilizer and lime. If large amounts of fertilizer are added and other good management practices are followed, this soil will produce good yields of the commonly grown crops. (Capability unit IIIe-1; woodland suitability group 1)

Dulac silt loam, 2 to 5 percent slopes, eroded (DuB2).—The surface layer is dark grayish-brown to dark-brown, friable silt loam 4 to 6 inches thick. In most fields the brownish subsoil is exposed in some areas. Small rills and shallow gullies are common after a rain, and in these galled and severely eroded spots the yields of crop are less. The subsoil is strong-brown to yellowish-brown silt loam or silty clay loam. Depth from the surface to the fragipan ranges from 20 to 26 inches. Small areas of Providence silt loam were included in the mapping.

The soil is strongly acid and has moderate natural fertility, but crops grown on it are responsive to fertilizer and lime. The available moisture capacity is moderate. The soil works easily, but it crusts and packs when bare. Where a plowpan has formed, plant roots and internal water movement are generally restricted to the upper 8 to 10 inches.

About 70 percent of the acreage has been cleared and used for crops and pasture, but in recent years, some of this has been reverted to pines. If large amounts of fertilizer are applied, this soil produces good yields of all the commonly grown crops. (Capability unit IIe–1; woodland suitability group 1)

Dulac silt loam, 8 to 12 percent slopes, eroded (DuD2).—The surface layer is dark grayish-brown to dark-brown, friable silt loam 3 to 5 inches thick. In most cultivated fields, the brownish subsoil is exposed where the plow layer has extended into the subsoil. Small rills and shallow gullies are in most fields. The subsoil is brown silt loam or silty clay loam. Depth from the surface to the fragipan ranges from 20 to 24 inches. Small areas of Providence silt loam were included in the mapping.

The soil is strongly acid and has moderate natural fertility and moderate available moisture capacity. This soil erodes readily if not protected. It works easily but crusts and packs when bare.

About 50 percent of the acreage has been cleared and used for crops and pasture, but in recent years, some of it has reverted to pines. The slopes are the main limitations in using this soil for cultivated crops. It is best suited to pasture and pines. (Capability unit IVe-3; woodland suitability group 1)

Dulac silt loam, 2 to 5 percent slopes, severely eroded (DuB3).—Erosion has removed most of the original surface layer of this soil. Consequently, the plow layer is a brownish, friable silt loam, which is a mixture of the original surface layer and the subsoil. The subsoil is strong-brown to yellowish-brown silt loam or silty clay loam. Rills and a few shallow gullies are in some fields. Depth from the surface to the fragipan is about 20 inches. Small areas of Providence silt loam were included in the mapping.

The soil is strongly acid and has moderate natural fertility. The available moisture capacity is low to moderate. This soil works easily but crusts and packs when bare. The rate of infiltration is slow, runoff is high, and the soil erodes readily if not protected.

Most of the acreage has been cleared and used for crops and pasture but in recent years some of it has reverted to pines. If heavily fertilized and otherwise well managed, this soil produces good yields of the commonly grown crops. (Capability unit IIIe–1; woodland suitability group 1)

Dulac silt loam, 5 to 8 percent slopes, severely eroded (DuC3).—All, or nearly all, of the original surface layer of this soil has been removed by erosion. The plow layer, which is brownish, friable silt loam, is a mixture of the remnants of the original surface layer and the subsoil. Rills and a few deep gullies are common in most fields. The subsoil is strong-brown to yellowish-brown silt loam or silty clay loam. Depth from the surface to the fragipan is about 20 inches. Small areas of Providence silt loam were included in the mapping.

The soil is strongly acid and has moderate natural fertility, but crops grown on it respond well to fertilizer and lime. The available moisture capacity is low to moderate. The soil works easily but crusts or packs when bare. The infiltration rate is slow, runoff is rapid, and the soil erodes readily if not protected.

Most of the acreage has been cleared and used for crops and pasture, but in recent years about 40 percent of the acreage has reverted to pines. If this soil is heavily fertilized and well managed, it produces fair yields of most crops commonly grown in the area. (Capability unit IVe-1; woodland suitability group 1)

Dulac silt loam, 8 to 12 percent slopes, severely eroded (DuD3).—Erosion has removed most of the original surface layer of this soil, and the plow layer is brownish, friable silt loam—a mixture of the remnants of the original surface layer and the subsoil. The subsoil is strong-brown to yellowish-brown silt loam or silty clay loam. Rills and a few deep gullies are in most fields. Depth from the surface to the fragipan is about 20 inches. Small areas of Providence silt loam were included in the mapping.

This soil is strongly acid and has moderate natural fertility. The available moisture capacity is low to moderate. The infiltration rate is slow; therefore, runoff is rapid, and erosion is a severe hazard.

Most of the acreage was cleared and used for crops and pasture, but about half of it has reverted to pines. Because of the slope and the hazard of erosion, this soil is best suited to pasture and trees, and it produces good yields if heavily fertilized and otherwise well managed. (Capability unit VIe–1; woodland suitability group 1)

Eustis Series

This series consists of very steeply sloping, excessively drained soils of uplands. These soils formed in coarse-textured sediments of the Coastal Plain. The surface layer is dark-brown or dark grayish-brown loamy sand, and the subsoil is dark-brown to reddish-yellow loamy sand to sand.

These soils have low natural fertility, contain little organic matter, and are slightly to strongly acid. Their internal drainage is rapid.

In Calhoun County the Eustis soils are not mapped as separate units but are mapped in undifferentiated soil groups with the Orangeburg soils. A profile of the Eustis soils is described in the mapping unit of Orangeburg and Eustis soils, 17 to 35 percent slopes.

Eustis soils occur with Orangeburg soils on steep slopes. They are less red and are coarser textured than the Orangeburg soils. Eustis soils are similar to Ruston soils in color but are coarser textured.

Falaya Series

The Falaya series consists of somewhat poorly drained alluvial soils that are derived from silty sediments washed from loessal uplands. These soils are subject to frequent flooding and are receiving fresh deposits. Their surface layer is dark-brown silt loam, and their subsoil is yellowish-brown to dark-brown silt loam or silty clay loam. The subsoil is mottled with gray or pale brown at a depth of 6 to 16 inches.

These soils have moderate natural fertility, contain little organic matter, and are strongly acid.

Falaya soils are adjacent to or near the Collins, Urbo, Chastain, and Waverly soils. They are not so well drained as the Collins soils but are better drained and browner than the Chastain and Waverly soils. The Falaya soils have drainage similar to that of the Urbo soils but have a coarser textured surface layer and subsoil.

The Falaya soils are on the bottoms throughout the county and account for nearly 16 percent of the total county area. The native vegetation consists mainly of oaks, sweetgum, blackgum, hickory, and ash and an undergrowth of brush, briers, and vines. About 74 percent of the acreage is cultivated or in pasture. These soils are suited to most of the commonly grown crops.

Falaya silt loam (Fa).—This somewhat poorly drained soil is on bottom land. It has a friable, dark-brown silt loam surface layer over a dark yellowish-brown silt loam layer with pale-brown and gray mottles. The major horizons are—

0 to 7 inches, dark-brown, very friable silt loam.
7 to 11 inches, dark yellowish-brown, friable silt loam with pale-brown and gray mottles.

11 to 60 inches, mottled gray, brown, and yellowish-brown, friable silt loam.

Cultivated areas have a dark-brown to yellowish-brown silt loam surface layer. The subsoil is dark yellowish-brown to brown silt loam or silty clay loam with pale-brown and gray mottles. Small areas of Collins, Urbo, and Waverly soils were included in the mapping.

The soil works easily, but it crusts and packs and a plowpan forms readily. Streambank cutting and overfalls may be serious, and crops may be slightly to moderately damaged by flooding. Crops grown on this soil respond well to lime and fertilizer.

This soil is one of the most productive in the county and is well suited to all the commonly grown crops. Most of the acreage is cultivated or in pasture. (Capability unit IIw–2; woodland suitability group 8)

Falaya silt loam, local alluvium (Fb).—This somewhat poorly drained soil on bottom land has developed from silty alluvium washed from local areas. It occurs along narrow drainageways, in upland depressions, and at the foot of slopes bordering the flood plains.

The profile is similar to that of Falaya silt loam, except that the surface layer is more stratified with recent sediments. The color of the surface layer varies according to the color of the nearby upland soils from which the materials were transported. A few small areas have sandy material in the profile, primarily at the surface. A few areas have slopes of 3 or 4 percent.

This soil is subject to periodic flooding, but seldom during the summer. Most areas are long and narrow, and the use of large farm machinery is limited. Most of this soil was once cleared and used for crops and pasture, but in recent years a large part has reverted to trees.

Crops respond well to fertilizer and lime. If the soil is heavily fertilized and otherwise well managed, it produces good yields of all crops commonly grown in the area. (Capability unit IIw–2; woodland suitability group 8)

Falkner Series

The Falkner series consists of nearly level to moderately sloping, somewhat poorly drained soils of uplands. These soils developed in a mantle of loess, about 22 inches thick over acid, fine-textured Coastal Plain material. The surface layer is dark grayish-brown or dark yellowish-brown silt loam. The subsoil is yellowish-brown silty clay loam in the upper part and mottled silty clay or clay in the lower part.

These soils have moderate natural fertility, contain little organic matter, and are very strongly acid.

The Falkner soils are adjacent to or near the Tickfaw, Bude, Mayhew, Dulac, and Wilcox soils. The Falkner soils are better drained than the Tickfaw and Mayhew soils and are not so gray. They lack the fragipan that is characteristic of the Bude and Dulac soils, and they were formed partly in a loess mantle and thereby differ from the Wilcox soils, which were formed in clay of the Coastal Plain.

The Falkner soils are in the Thin Loess Flatwoods and account for less than 1 percent of the total county area. The native vegetation consists of mixed hardwoods with an undergrowth of brush and grasses. Most of the acreage is now cultivated or in pasture. These soils are suited to most of the commonly grown crops.

Falkner silt loam, 2 to 5 percent slopes (FkB).—This is a somewhat poorly drained soil of the uplands. It has a friable, silty clay loam subsoil that is yellowish brown to mottled yellowish brown, gray, and pale brown. The major horizons are—

0 to 7 inches, dark yellowish-brown friable silt loam.
7 to 22 inches, yellowish-brown to mottled gray, friable silty clay loam with pale-brown and strong-brown mottles.
22 to 31 inches, mottled gray, yellowish-brown, and red, firm silty clay.
31 to 45 inches, gray, very firm clay with strong-brown mottles.

The surface layer ranges in color from dark grayish brown to yellowish brown and from 5 to 7 inches in thickness. The subsoil ranges from 13 to 18 inches in thickness and from yellowish brown to brownish yellow in color. Depth from the surface to the finer textured material ranges from 18 to 24 inches. A few small areas that have slopes of 0 to 2 percent and a few small areas of Bude silt loam where included in the mapping.

This soil is very strongly acid, has moderate natural fertility, and contains little organic matter. Although the soil works easily, it crusts and packs when bare, and a plowpan forms readily. Seedbed preparation is often delayed in the spring because the soil is wet; during dry seasons the soil is droughty.

Most of the acreage has been cleared and used for pasture or crops, but in recent years, some of it has reverted to pines. This soil is suited to most of the commonly grown row crops. (Capability unit IIIw–1; woodland suitability group 4)

Falkner silt loam, 2 to 5 percent slopes, eroded (FkB2).—The surface layer of this soil is dark grayish-brown to yellowish-brown, friable silt loam 4 to 5 inches thick. The subsoil is yellowish-brown to brownish-yellow silty clay loam, and it is exposed in most fields where the plow layer includes part of the subsoil. Small rills are common after a heavy rain. Depth from the surface to the clay layer ranges from 18 to 22 inches.

This soil is very strongly acid, has moderate natural fertility, and contains little organic matter. It has moderate available moisture capacity. Seedbed preparation is often delayed in the spring when the soil is wet, and the soil is droughty during dry seasons.

Nearly all the acreage has been cleared and used for crops and pasture, but in recent years, some of it has reverted to pines. Because it is wet in winter and spring and planting is delayed, this soil is not suited to many of the commonly grown crops. Yields of suitable crops are good, however, if adequate amounts of fertilizer and lime are used. (Capability unit IIIw–1; woodland suitability group 4)

Falkner silt loam, 5 to 8 percent slopes, eroded (FkC2).—The surface layer of this soil is dark grayish-brown to dark yellowish-brown, friable silt loam 4 or 5 inches thick. The subsoil is yellowish-brown to brownish-yellow silty clay loam, and it is exposed in most fields where the plow layer includes part of the subsoil. Most of the areas are sheet eroded but not appreciably gullied. A few areas have many shallow gullies and a few deep ones. Depth from the surface to the clay layer is about 18 inches.

The soil is very strongly acid, has moderate natural fertility, and contains little organic matter. It works easily but crusts and packs when bare. In the spring the soil is usually wet, and seedbed preparation is often delayed. The available moisture capacity is moderate.

About 60 percent of the acreage has been cleared and used for crops and pasture, but a large part of it has reverted to pines. This soil is not suited to many of the commonly grown crops. Yields of suitable crops are usually good, however, if adequate amounts of fertilizer and lime are used. (Capability unit IIIe–2; woodland suitability group 4)

Freeland Series

The Freeland series consists of gently to moderately sloping, moderately well drained soils with a fragipan. These soils developed in a thin mantle of loess over sandy Coastal Plain material. The surface layer is dark grayish-brown or dark-brown silt loam, and the subsoil is dark-brown to yellowish-brown silt loam or silty clay loam. The loam fragipan is about 22 inches from the surface and is 20 inches thick or more.

These soils have moderate natural fertility, contain little organic matter, and are strongly acid.

Freeland soils are adjacent to or near the Hatchie and Almo soils. They are better drained than the Hatchie and Almo soils, have a browner subsoil, and are deeper to the fragipan.

The Freeland soils are on the high stream terraces along the Yalobusha, Skuna, Topashaw, and smaller streams throughout the county. They account for nearly 2 percent of the total acreage. The native vegetation consists of mixed hardwoods and some pine. These soils are well suited to the commonly grown crops.

Freeland silt loam, 2 to 5 percent slopes, eroded (FrB2).—This moderately well drained soil is on terraces It has a friable, dark-brown silt loam subsoil. The major horizons are—

0 to 5 inches, dark-brown, friable silt loam.
5 to 25 inches, dark-brown, friable, light silty clay loam with yellowish-brown mottles in lower part.
25 to 44 inches, mottled dark yellowish-brown and pale-brown loam to dark-brown fine sandy loam mottled with yellowish brown and pale brown; compact and brittle (fragipan).
44 to 60 inches, yellowish-brown, friable to firm fine sandy loam with pale-brown mottles.

The surface layer of this soil is friable silt loam that ranges from 3 to 6 inches in thickness but averages about 4 or 5 inches. The color of the surface layer ranges from dark grayish brown to dark brown, but about 25 percent of it has a yellowish-brown cast where erosion has removed most of the original surface soil and plowing has turned up the subsoil. Most of the erosion is sheet erosion, and not many gullies have formed. The subsoil ranges from 18 to 22 inches in thickness, from dark brown to yellowish brown in color, and from silt loam to silty clay loam in texture. Depth from the surface to the fragipan ranges from 22 to 28 inches. Included in the mapping are a few areas that are only slightly eroded. Also, a few areas of Hatchie silt loam are included.

Freeland silt loam is medium to strongly acid, has moderate natural fertility, and contains little organic matter. The available moisture capacity is moderate. Roots and moisture easily penetrate the subsoil to the fragipan, where further penetration is retarded.

All of this soil has been cleared and cultivated, but some of it is now idle, and some has reverted to trees. This soil is well suited to all locally grown crops, pasture, and trees because it is easily tilled, has gentle slopes, and crops grown on it respond well to fertilizer. It is the most productive soil on terraces in the county. (Capability unit IIe–1; woodland suitability group 1)

Freeland silt loam, 2 to 5 percent slopes, severely eroded (FrB3).—Erosion has removed most of the original surface layer of this soil. Consequently, the plow layer is dark-brown to yellowish-brown friable silt loam—a mixture of the original surface soil and subsoil. The subsoil is dark-brown to yellowish-brown silt loam or silty clay loam, underlain by a fragipan at 18 to 22 inches. Most of the erosion is sheet erosion, and not many gullies have formed. Small areas of Hatchie silt loam were included in the mapping.

The soil is medium to strongly acid and has moderate natural fertility. The available moisture capacity is moderate. Roots and moisture penetrate easily to the fragipan layer, but further penetration is retarded. If this soil is used for crops, erosion is a severe hazard.

All of this soil has been cleared and used for crops, but some of it is now idle, and some has reverted to trees. If adequately fertilized and otherwise well managed, the soil produces fair yields of most crops commonly grown in the area. It is also suited to pasture and trees. (Capability unit IIIe–1; woodland suitability group 1)

Freeland silt loam, 5 to 8 percent slopes, severely eroded (FrC3).—Most of the original surface layer and, in places, part of the subsoil have been lost through sheet erosion. An occasional deep gully has formed in some areas. The plow layer is dark-brown to yellowish-brown, friable silt loam. The subsoil is dark-brown to yellowish-brown silt loam or silty clay loam, underlain by a fragipan at 18 to 22 inches.

This soil is medium to strongly acid and has moderate natural fertility. Crops grown on it are responsive to lime and fertilizer. It has a moderate available moisture capacity. Roots and moisture penetrate the subsoil to the fragipan, but further penetration is retarded. Runoff is rather rapid, and erosion is a severe hazard.

Nearly all the acreage has been cleared and used for crops, but some of it is now idle and has grown up in broomsedge, briers, and bushes. This soil is suited to most of the commonly grown crops and to pasture and trees. Fair yields are produced if the soil is adequately fertilized and otherwise well managed. (Capability unit IVe–1; woodland suitability group 1)

Gullied Land (Gu)

This miscellaneous land type is made up of eroded and gullied areas of Dulac, Providence, Cuthbert, Ruston, Eustis, Orangeburg, and Wilcox soils—all of which formed in loessal or in Coastal Plain materials. In most areas the original surface soil has been removed, and an intricate pattern of gullies has formed. Many of the gullies cannot be crossed by farm machinery. The soil between the gullies is moderately well drained to excessively drained and has rapid runoff. The supply of organic matter and the content of plant nutrients are low.

Gullied land occurs throughout the county on slopes of 2 to 35 percent and accounts for nearly 8 percent of the land area. Nearly all of this land type was cleared and used for crops but most of it is now in trees. A small part is idle, in pasture, or in crops.

On Gullied land a well-managed, permanent cover of trees is necessary to control erosion and protect lower areas from sediment. (Capability unit VIIe–1; woodland suitability group 7)

Hatchie Series

The Hatchie series consists of nearly level to gently sloping, somewhat poorly drained soils that have a strong fragipan. These soils developed in a thin mantle of loess over sandy Coastal Plain material. Where not eroded, their surface layer is dark grayish-brown or brown silt loam, and the subsoil is mottled yellowish-brown and gray silt loam or silty clay loam. The fragipan is about 18 inches beneath the surface and is 20 inches thick or more.

These soils have moderate natural fertility, contain little organic matter, and are strongly acid.

The Hatchie soils are adjacent to or near the Freeland and Almo soils. They are more poorly drained than the Freeland soils and have a fragipan at a shallower depth. The Hatchie soils are better drained than the Almo soils and do not have the gray B horizon that is in those soils.

The Hatchie soils are on the low stream terraces along the Yalobusha, Skuna, Topashaw, and smaller streams throughout the county. They account for more than 3 percent of the total county area. The native vegetation consists of mixed hardwoods, some pines, and an undergrowth of briers, brush, vines, and grasses.

Hatchie silt loam, 0 to 2 percent slopes (HaA).—This somewhat poorly drained soil is on terraces. It has a yellowish-brown to mottled yellowish-brown and light brownish-gray, heavy silt loam subsoil. The major horizons are—

0 to 7 inches, brown, friable silt loam.
7 to 17 inches, yellowish-brown to mottled yellowish-brown and light brownish-gray, friable, heavy silt loam.
17 to 41 inches, mottled gray and yellowish-brown, heavy silt loam that is compact and brittle (fragipan).
41 to 60 inches, mottled gray and yellowish-brown, firm clay loam.

The surface layer of this soil is friable silt loam that ranges from 6 to 8 inches in thickness but averages about 7 inches. The color of the surface layer ranges from dark grayish brown to brown. The subsoil is silt loam or light silty clay loam. It ranges from 8 to 14 inches in thickness and from yellowish brown to mottled yellowish brown and gray in color. Depth from the surface to the fragipan ranges from 16 to 20 inches. The material below the fragipan may be silty clay loam, loam, clay loam, or fine sandy loam. Small areas of Almo silt loam and Freeland silt loam were included in the mapping.

The soil is strongly acid, has moderate natural fertility, and contains little organic matter. The fragipan restricts the depth to which roots can grow and thereby limits moisture available to plants. Seedbed preparation is often delayed in the spring, because the soil is wet. The soil is droughty during dry seasons. It works easily but crusts and packs when bare. Surface runoff and infiltration are slow.

Nearly all the acreage has been cleared and used for crops, but some of it is now idle, and some has reverted to trees. This soil is suited to most of the commonly grown crops and to pasture and trees. Yields of most crops are good if the soil is properly fertilized and otherwise well managed. (Capability unit IIIw–1; woodland suitability group 3)

Hatchie silt loam, 2 to 5 percent slopes (HaB).—This soil has a friable silt loam surface layer that ranges from dark grayish brown to brown and is 6 or 7 inches thick. The subsoil, 8 to 14 inches thick, is yellowish-brown to mottled yellowish-brown silt loam or silty clay loam. Depth to the fragipan is 16 to 20 inches. Small areas of Almo silt loam and Freeland silt loam were included in the mapping.

Surface drainage is better on this soil than on Hatchie silt loam, 0 to 2 percent slopes. This soil is strongly acid, has moderate natural fertility, and contains little organic matter. The available moisture capacity is usually limited by the shallow depth to the fragipan. Seedbed preparation is fairly difficult because of the problem of finding the soil at the right moisture content.

Nearly all of this soil has been cleared and used for crops, but some of it is now idle, and some has been planted to pine seedlings. The soil is suited to most of the commonly grown crops and to pasture and trees. If properly fertilized and otherwise well managed, it produces good yields of most crops. Capability unit IIIw–1; woodland suitability group 3)

Hatchie silt loam, 2 to 5 percent slopes, eroded (HaB2).—The surface layer of this soil is brown or yellowish-brown, friable silt loam 3 to 5 inches thick. The subsoil is yellowish-brown silt loam or silty clay loam, and it is exposed in most fields where the plow layer includes part of the subsoil. Most of the erosion is sheet erosion, and only a few fields have gullies. The fragipan is about 16 inches from the surface. Small areas of Almo silt loam and Freeland silt loam were included in the mapping.

This soil is strongly acid and has moderate natural fertility. The shallow depth to the fragipan limits the available moisture capacity. Seedbed preparation is often delayed in the spring because the soil is too wet.

All the acreage has been cleared and used for crops, but in recent years, some of it has reverted to pines. Some areas are idle and have grown up in broomsedge, briers, and bushes. The soil is suited to most of the commonly grown crops and to pasture and trees. Fair yields of most crops can be expected if management is good. (Capability unit IIIw–1; woodland suitability group 3)

Henry Series

The Henry series consists of nearly level, poorly drained soils with a strong fragipan. These soils formed in a thick mantle of loess over Coastal Plain material. Their surface layer is dark grayish-brown or brown silt loam, and their subsoil is mottled gray or solid gray silt loam. The fragipan, about 18 inches from the surface, is 20 inches thick or more.

These soils have low natural fertility, contain little organic matter, and are strongly acid.

The Henry soils are adjacent to or near the Providence, Bude, and Dulac soils but are poorly drained, are grayer

throughout the profile, and have a fragipan at a shallower depth.

The Henry soils are in the Thin Loess Flatwoods area and account for less than 1 percent of the total county acreage. The native vegetation consists chiefly of mixed hardwoods and an undergrowth of brush, vines, and grasses. About half the acreage is cultivated or in pasture. These soils are poorly suited to most of the commonly grown crops.

Henry silt loam, (0 to 2 percent slopes) (Hn).—This is a poorly drained soil of the uplands. It has a friable, gray heavy silt loam subsoil. The major horizons are—

0 to 6 inches, brown friable silt loam.
6 to 17 inches, gray, friable heavy silt loam with yellowish-brown and brown mottles.
17 to 42 inches, mottled gray, pale-brown, and yellowish-brown silt loam; compact and brittle (fragipan).
42 to 54 inches, mottled gray, yellowish-brown, and dark yellowish-brown, friable silty clay loam.

The surface layer of this soil is dark grayish-brown to brown, friable silt loam 8 to 11 inches thick. The subsoil is gray or mottled gray, yellowish-brown, and brown silt loam or light silty clay loam. Depth from the surface to the silt loam or silty clay loam fragipan ranges from 14 to 20 inches. The horizon underlying the fragipan is generally silt loam or silty clay loam, but it may be silty clay in a few places. Included in the mapping are small areas of Bude silt loam.

This soil is strongly acid and has low natural fertility. Because of a fluctuating water table, it is wet in the winter and spring and dry during the summer and fall. Root and water penetration are retarded by the fragipan. Crops grown on this soil respond moderately well to fertilizer and lime.

Nearly all the acreage has been cleared and is used for pasture and crops. The soil is suited to pasture and trees and to a few row crops. Yields are fair to poor for most crops other than pasture or hay. (Capability unit IIIw–2; woodland suitability group 5)

Mayhew Series

The Mayhew series consists of nearly level, poorly drained soils of the uplands. These soils formed in clay materials over clay shale of the Coastal Plain. They have a dark grayish-brown to dark-brown silty clay loam surface layer and a mottled gray silty clay loam to clay subsoil.

These soils have low natural fertility, contain little organic matter, and are strongly acid.

The Mayhew soils are adjacent to or near the Tickfaw, Wilcox, Bude, Falkner, and Dulac soils. They are grayer and more poorly drained than the Wilcox, Bude, Falkner, and Dulac soils. The Mayhew soils resemble the Tickfaw soils in color and degree of drainage but are derived wholly from clay sediments; whereas the Tickfaw soils developed in thin loess over clay.

The Mayhew soils occur in the Thin Loess Flatwoods of the county and account for less than 1 percent of the total county area. The native vegetation consists chiefly of mixed hardwoods and an undergrowth of brush, briers, vines, and grasses. Less than half of the acreage has been cleared and is used for crops and pasture. These soils are better suited to pasture and trees than to row crops.

Mayhew silty clay loam (Ma).—This is a poorly drained soil of the uplands. It has a gray, firm to very firm, silty clay to clay subsoil with yellowish-brown mottles. The major horizons are—

0 to 4 inches, dark-brown, friable silty clay loam.
4 to 60 inches, gray to mottled light olive-brown, gray, and yellowish-brown, very firm clay.

The surface layer ranges from dark brown to dark grayish brown, and the subsoil from solid gray to gray with brownish mottles and from silty clay to clay. A few small areas of Tickfaw silt loam and a few areas of Mayhew silty clay loam on 2 to 5 percent slopes were included in the mapping.

This soil is strongly acid, has low natural fertility, and contains little organic matter. The soil is hard to work and often produces poor crops. It is either too wet or too dry, depending upon the season; and during dry seasons it cracks badly.

Less than half of this soil has been cleared and used for crops or pasture. The soil is suited to pasture and trees and to a few row crops. (Capability unit IVw–2; woodland suitability group 4)

Mixed Alluvial Land

This miscellaneous land type consists of bottom-land soil materials that vary in texture and that developed from loess and sandy Coastal Plain material. The horizons are composed of stratified silty and sandy materials that vary in thickness. The sandy material ranges from sand to sandy loam, and the silty material generally is silt loam. Mixed alluvial land is well drained to somewhat poorly drained.

This land type is medium to strongly acid, contains little organic matter, and has low natural fertility.

Mixed alluvial land is adjacent to or near the Collins, Falaya, Urbo, Chastain, and Waverly soils. It differs from these soils, however, in having various textures throughout the profile, and it has more variable drainage because of the sandy material in the profile.

Mixed alluvial land occurs throughout the county in small areas along the stream channels where mixed sandy and silty materials have been deposited by floods. It is also found at the base of steep slopes, where sandy material has been washed from the hills and mixed with the silty material. The native vegetation is mixed hardwoods and some pines. Mixed alluvial land makes up less than 1 percent of the total county acreage. It is suited to most of the commonly grown crops.

Mixed alluvial land (Mx).—This is a well-drained to somewhat poorly drained land type on bottoms. It consists of very friable, mottled dark-brown and pale-brown soil material of varying texture that ranges from silty clay loam to sand. There is no uniformity in arrangement, depth, color, or thickness of horizons. This land type is slowly to rapidly permeable, and it is droughty. Drainage ditches are difficult to maintain because they fill with sediment.

Mixed alluvial land is suited to row crops, pasture, and trees. (Capability unit IIIw–3; woodland suitability group 9)

Orangeburg Series

The Orangeburg series consists of very steeply sloping, well-drained soils of uplands. These soils formed in thick beds of Coastal Plain sandy loam and sandy clay loam. The surface layer is very dark gray fine sandy loam, and the subsoil is red to dark-red sandy clay loam.

These soils have low natural fertility and contain little organic matter. They are strongly acid. The native vegetation consists chiefly of mixed hardwoods, pines, and an undergrowth of brush and grasses. In Calhoun County the Orangeburg soils are mapped only in an undifferentiated group with Eustis soils.

Orangeburg and Eustis soils, 17 to 35 percent slopes (OeF).—This mapping unit consists of Orangeburg soils and Eustis soils, which occur together in such an intricate pattern that they are mapped as an undifferentiated group of soils. Some areas of these soils are Orangeburg, some are Eustis, but most areas contain both soils. They occur on slopes of 17 to 35 percent in the northwestern part of the county. These soils make up nearly 2 percent of the county area. Because of droughtiness and steep slopes, these soils are not suited to pasture or crops.

Orangeburg fine sandy loam is a well-drained soil of the uplands. It has a friable, dark-red sandy clay loam subsoil. The major horizons are—

0 to 2 inches, very dark gray, very friable sandy loam.
2 to 12 inches, yellowish-brown, very friable sandy loam.
12 to 38 inches, dark-red, friable sandy clay loam.
38 to 60 inches, dark-red, very friable sandy loam with strong brown mottles.

Eustis loamy sand is an excessively drained soil of the uplands. It has a loose, dark-brown loamy sand subsoil. The major horizons are—

0 to 9 inches, dark-brown, very friable loamy sand.
9 to 26 inches, dark-brown loose loamy sand.
26 to 57 inches, reddish-yellow loose sand.
57 to 75 inches, yellowish-red friable sandy loam.

The surface layer and subsoil of this undifferentiated unit varies in texture. Consequently, infiltration and permeability also vary. Erosion is slight. Because they are steep and droughty, these soils are not suited to pasture or crops but are suited to pines and adapted hardwoods. (Capability unit VIIe–2; woodland suitability group 6)

Providence Series

The Providence series consists of gently sloping to strongly sloping, moderately well drained soils with a fragipan. Their surface layer is dark grayish-brown or grayish-brown silt loam, and the subsoil is strong-brown to yellowish-red silty clay loam. The fragipan is about 24 inches beneath the surface.

These soils have moderate natural fertility, contain little organic matter, and are medium to strongly acid.

The Providence soils are adjacent to or near the Bude, Henry, Dulac, Ruston, Orangeburg, Eustis, and Cuthbert soils. They are browner and better drained than the Bude and Henry soils. The Providence soils are similar to the Dulac soils in drainage and color but have more sandy Coastal Plain material underlying the loess. The thin mantle of loess distinguishes the Providence soils from the Ruston, Orangeburg, Cuthbert, and Eustis soils.

The Providence soils occur throughout the county on ridges and slopes of less than 12 percent and make up nearly 3 percent of the county area. The native vegetation consists chiefly of mixed hardwoods, pines, and an undergrowth of brush, vines, and grasses. These soils are well suited to most of the commonly grown crops, and most of the acreage is used for crops and pasture.

Providence silt loam, 5 to 8 percent slopes, eroded (PrC2).—This moderately well drained soil is in the uplands. The subsoil is friable, yellowish-red to strong-brown silty clay loam to silt loam. The major horizons are—

0 to 5 inches, mottled dark-brown and yellowish-brown, friable silt loam.
5 to 22 inches, yellowish-red to strong-brown silty clay loam.
22 to 40 inches, yellowish-brown silt loam with dark-brown and pale-brown mottles to mottled yellowish-brown and pale-brown fine sandy loam; firm, compact, and brittle (fragipan).
40 to 56 inches, mottled yellowish-red, yellowish-brown, and yellow, friable fine sandy loam.

The surface layer of this soil is dark grayish-brown to dark-brown, friable silt loam 4 to 6 inches thick. The yellowish-brown subsoil is exposed in most fields where the plow layer includes part of the subsoil. The erosion is mostly sheet erosion, but a few shallow gullies are in some fields. The subsoil ranges from 18 to 24 inches in thickness, from strong brown to yellowish red in color, and from silt loam to silty clay loam in texture. Depth from the surface to the fragipan ranges from 22 to 28 inches.

Included in the mapping are severely eroded spots that, in most fields, are as much as 10 to 20 percent of the acreage. Included also in the mapping are small areas of Dulac silt loam.

This soil is medium to strongly acid and has moderate natural fertility. Crops grown on it respond well to fertilizer and lime. Although the soil crusts and packs when bare, it works easily.

This soil is mainly on the long and narrow ridgetops throughout the county. About 60 percent of it has been cleared and used for crops and pasture, but some of it has reverted to trees in recent years.

If adequately fertilized and otherwise well managed, this soil will produce good yields of the commonly grown crops. (Capability unit IIIe–1; woodland suitability group 1)

Providence silt loam, 5 to 8 percent slopes, severely eroded (PrC3).—Erosion has removed most of the original surface layer of this soil, and the plow layer is a mixture of the original surface soil and subsoil. The yellowish-brown silt loam plow layer is slightly finer textured than that of Providence silt loam, 5 to 8 percent slopes, eroded. Rills and a few shallow gullies are common in most fields. The subsoil is strong-brown to yellowish-red silt loam or silty clay loam. Depth from the surface to the fragipan ranges from 18 to 24 inches. Small areas of Dulac silt loam were included in the mapping.

This soil is medium to strongly acid and has moderate natural fertility. Because of the shallow depth to the fragipan, plants lack moisture in dry weather. Erosion is a serious hazard on this soil.

Most of the acreage has been cleared and used for crops and pasture, but some of it is now idle, and some has has reverted to trees. This soil is suited to most of the commonly grown crops, but it is best suited to pasture

and trees. (Capability unit IVe–1; woodland suitability group 1)

Providence silt loam, 2 to 5 percent slopes, eroded (PrB2).—The surface layer of this soil is dark-brown to yellowish-brown, friable silt loam 3 to 6 inches thick. In most fields there are large areas where plowing has exposed the yellowish-brown subsoil. Also, there are small rills and a few shallow gullies in most fields. The subsoil is strong-brown to yellowish-red silt loam or silty clay loam. Depth from the surface to the fragipan ranges from 22 to 28 inches. Small areas of Dulac silt loam were included in the mapping.

This soil is medium to strongly acid and has moderate natural fertility. The available moisture capacity is moderate. Although the soil works easily, it crusts and packs when bare. Crops grown on it respond well to fertilizer and lime.

About 70 percent of the acreage has been cleared and used for crops and pasture. This soil is suited to the commonly grown crops and to pasture and trees. Good yields are usually produced when the soil is adequately fertilized and otherwise well managed. (Capability unit IIe–1; woodland suitability group 1)

Providence silt loam, 2 to 5 percent slopes, severely eroded (PrB3).—This soil has lost all or nearly all of its original surface layer through erosion, and the plow layer is a mixture of the original surface layer and the subsoil. The yellowish-brown silt loam plow layer is slightly finer textured than that of Providence silt loam, 5 to 8 percent slopes, eroded. Most of the erosion is sheet erosion, but a few gullies have formed. The subsoil is strong-brown to yellowish-red silt loam or silty clay loam. Depth from the surface to the fragipan ranges from 18 to 24 inches. Small areas of Dulac silt loam were included in the mapping.

This soil is medium to strongly acid and has moderate natural fertility. It works easily but tends to crust and pack when bare. The available moisture capacity is low to moderate. The soil erodes readily when not protected.

All the acreage has been cleared and used for crops and pasture at one time. If heavily fertilized and otherwise well managed, this soil produces good yields of the commonly grown crops. (Capability unit IIIe–1; woodland suitability group 1)

Providence silt loam, 8 to 12 percent slopes, eroded (PrD2).—This soil has a dark-brown to yellowish-brown, friable silt loam surface layer 3 to 5 inches thick. About 25 percent of the acreage has a yellowish-brown cast where erosion has removed most of the surface soil and plowing has turned up the upper subsoil. Small rills and shallow gullies are common in most fields. The subsoil is strong-brown to yellowish-red silt loam or silty clay loam. Depth from the surface to the fragipan ranges from 20 to 26 inches. Small areas of Dulac silt loam were included in the mapping.

The soil is medium to strongly acid, and has moderate natural fertility and available moisture capacity. It erodes readily when not protected.

About 50 percent of the acreage has been cleared and used for crops and pasture. Because of the slopes, however, this soil is better suited to pasture and trees than to cultivated crops. (Capability unit IVe–3; woodland suitability group 1)

Providence silt loam, 8 to 12 percent slopes, severely eroded (PrD3).—Erosion has removed most of the original surface layer of this soil, and the plow layer is a mixture of the surface soil and subsoil. This mixture is yellowish-red or strong-brown heavy silt loam. Rills and a few gullies are common in most fields. Runoff is rapid, and erosion is a severe hazard. Small areas of Dulac silt loam were included in the mapping.

All of this soil was once cleared and used for crops and pasture, but in recent years, some of it has reverted to pines. This soil is best suited to pasture and trees. (Capability unit VIe–1; woodland suitability group 1)

Ruston Series

The Ruston series consists of strongly sloping to very steeply sloping, well-drained soils of uplands. These soils are derived from sandy Coastal Plain materials. The surface layer is dark-brown fine sandy loam or loamy sand, and the subsoil is yellowish-red sandy clay loam.

These soils have low natural fertility, contain little organic matter, and are strongly acid.

In Calhoun County the Ruston soils occur with the Cuthbert and Dulac soils in such an intricate pattern that it was not practical to map them separately. A profile of Ruston soils is described in the undifferentiated mapping unit of Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes.

Tickfaw Series

The Tickfaw series consists of nearly level, poorly drained soils of uplands. They developed in a mantle of loess, 12 to 16 inches thick, over acid heavy Coastal Plain clay. Their surface layer is dark grayish-brown to dark-brown silt loam, and their subsoil is silt loam or silty clay loam that is solid gray or gray mottled with yellowish brown.

These soils have low natural fertility and contain little organic matter. They are strongly acid.

Tickfaw soils are adjacent to or near the Falkner, Mayhew, and Wilcox soils. They differ from the Falkner and Wilcox soils in being poorly drained and distinctly more gray in color. The Tickfaw soils resemble the Mayhew in color and drainage but have a loess mantle.

The Tickfaw soils occur in the Thin Loess Flatwoods and account for a little less than 1 percent of the total county area. The native vegetation consists chiefly of mixed hardwoods and an undergrowth of vines and grasses. These soils are best suited to hay, pasture, and trees.

Tickfaw silt loam (Tc).—This poorly drained soil of the uplands has a friable, light brownish-gray silty clay loam subsoil. The major horizons are—

0 to 6 inches, dark-brown friable silt loam.
6 to 16 inches, light brownish-gray, friable silty clay loam with yellowish-brown and brown mottles.
16 to 48 inches, gray, firm heavy silty clay loam or silty clay with yellowish-brown and pale-brown mottles.

The surface layer ranges from 6 to 7 inches in thickness. The subsoil is solid gray or mottled gray and yellowish-brown silt loam or silty clay loam. Depth to the finer textured material ranges from 12 to 16 inches. Small areas of Falkner silt loam were included in the mapping.

This soil contains little organic matter, has low natural fertility, and is strongly acid, and although it works fairly easily, it crusts and packs when bare. Because of a fluctuating water table, the soil is wet in the winter and spring and dry in the summer and fall. Root and water penetration are retarded by the firm clay layer. The soil is best suited to hay, pasture, and trees. (Capability unit IIIw–2; woodland suitability group 5)

Urbo Series

The soils of the Urbo series are nearly level, somewhat poorly drained, alluvial soils. They formed in sediments washed from thin loess soils and soils derived chiefly from thick beds of acid heavy clay material. These soils are subject to frequent flooding and are receiving fresh deposits. They have a dark-brown to a dark grayish-brown silty clay loam surface layer. The upper subsoil is brown or dark yellowish-brown to mottled yellowish-brown silt loam or silty clay loam underlain by clay at a depth of 16 to 18 inches.

These soils have moderate natural fertility, contain little organic matter, and are strongly acid.

The Urbo soils are adjacent to or near the Chastain, Collins, Falaya, and Waverly soils. They are not so well drained as the Collins soils but are better drained than the Chastain and Waverly soils. The Urbo soils are similar to the Falaya soils in drainage but have a finer textured subsoil.

The Urbo soils are on the bottoms along streams that drain the Thin Loess Flatwoods and make up about 4 percent of the total acreage. The native vegetation consists chiefly of oaks, sweetgum, blackgum, hickory, and ash, and an undergrowth of brush, canes, briers, vines, and grasses. Approximately 75 percent of the acreage has been cleared and is used for crops and pasture. These soils are suited to most of the commonly grown crops.

Urbo silty clay loam (Ur).—This is a somewhat poorly drained soil on bottom land. It has a friable, brown silty clay loam to firm, mottled gray silty clay subsoil. The major horizons are—

0 to 6 inches, dark-brown, friable silty clay loam.
6 to 16 inches, brown, friable silty clay loam with gray mottles.
16 to 48 inches, mottled gray to gray, firm silty clay or clay.

The subsoil is brown to yellowish-brown silty clay loam, silty clay, or clay with dark grayish-brown to gray mottling. Depth from the surface to the silty clay or clay ranges from 16 to 18 inches. In a few places the heavier clay may be deeper or absent. Small areas of Chastain silty clay loam and Falaya silt loam were included in the mapping.

This soil is strongly acid, contains little organic matter, and has moderate natural fertility. It can be worked without clodding only within a narrow range of moisture content, and a crop stand is often hard to obtain. Streambank cutting and overfalls may be serious. The soil is also subject to frequent flooding, which causes moderate crop damage.

About 75 percent of the acreage has been cleared and is used for crops and pasture. This soil is suited to most of the commonly grown crops. (Capability unit IIw–3; woodland suitability group 9)

Waverly Series

The Waverly series consists of nearly level, poorly drained soils that are derived from sediments washed from loessal uplands. The surface layer is dark grayish-brown or mottled gray silt loam, and the subsoil is gray or mottled gray silt loam or silty clay loam.

These soils have low natural fertility and contain little organic matter. They are strongly acid.

The Waverly soils adjoin or are near the Falaya, Collins, Urbo, and Chastain soils. They are more poorly drained than the Falaya and Collins soils and are grayer in the upper horizons. The Waverly soils are not so fine textured as the Urbo and Chastain soils.

Waverly soils occur on the flood plain in most areas of the county. They account for a little more than 4 percent of the total acreage. The native vegetation consists chiefly of oaks, ash, sweetgum, blackgum, and hickory and an undergrowth of brush, briers, canes, vines, and grasses. About half the acreage is in timber or is idle. These soils are best suited to hay, pasture, and timber.

Waverly silt loam (Wa).—This is a poorly drained soil on bottom land. It has a light brownish-gray, friable silt loam subsoil. The major horizons are—

0 to 6 inches, mottled brownish-gray and dark grayish-brown, friable silt loam.
6 to 17 inches, light brownish-gray, friable silt loam with dark grayish-brown mottles.
17 to 50 inches, light brownish-gray, friable light silty clay loam with yellowish-brown mottles.

The surface layer is dark grayish-brown, gray, or mottled gray. The subsoil is generally silt loam but is silty clay loam in some places. Small areas of Falaya silt loam were included in the mapping.

This soil is strongly acid, contains little organic matter, and has low natural fertility. The soil crusts and packs when bare. Also, it warms slowly in spring and generally is hard to work because of wetness. It is usually flooded several times a year, and crops are severely damaged.

About 50 percent of this soil is in timber or is idle. The soil is best suited to hay, pasture, and trees. (Capability unit IVw–1; woodland suitability group 9)

Wilcox Series

The Wilcox series consists of gently sloping to strongly sloping, somewhat poorly drained soils, dominantly of fine texture. These soils are derived chiefly from thick beds of acid, heavy clay materials over clay shale of the Coastal Plain. The surface layer is brown to dark yellowish-brown silty clay loam, and the subsoil is mottled strong-brown and red to gray silty clay or clay.

These soils have low natural fertility and contain little organic matter. They are strongly acid.

The Wilcox soils are adjacent to or near the Falkner, Dulac, Bude, Tickfaw, and Mayhew soils. The Wilcox soils are not so well drained as the Dulac soils but are better drained than the Tickfaw and Mayhew soils. The thin mantle of loess distinguishes the Falkner and Bude soils from the Wilcox.

The Wilcox soils are in the Thin Loess Flatwoods. Their slopes range from 2 to 12 percent, but generally are 5 to 12 percent. These soils make up about 1 percent of the total county acreage. The native vegetation con-

sists chiefly of mixed hardwoods and an undergrowth of brush and grasses. Most of the acreage is in timber, but some is in pasture and crops.

Wilcox silty clay loam, 2 to 5 percent slopes, eroded (WcB2).—This is a somewhat poorly drained soil of the uplands. The subsoil is mottled strong-brown and red to grayish-brown, firm silty clay to clay. The major horizons are—

0 to 5 inches, dark yellowish-brown, friable silty clay loam.
5 to 11 inches, mottled strong-brown, red, and pale-brown, firm silty clay.
11 to 40 inches, mottled light grayish-brown, red, and gray, firm clay.

The surface layer of this soil is brown to dark yellowish-brown silty clay loam 2 to 5 inches thick. Most fields have large reddish-brown areas where the plow layer has extended into the upper subsoil. A few small rills and shallow gullies are in some fields. The subsoil is mottled red and brown silty clay or clay.

This soil is strongly acid and has low natural fertility. The available moisture capacity is moderate, runoff is medium to rapid, and the subsoil is very slowly permeable. Erosion is a hazard.

About 70 percent of the acreage has been cleared and used for pasture and crops, but in recent years, some of it has reverted to trees. This soil is best suited to pasture and trees. (Capability unit IIIe–3; woodland suitability group 4)

Wilcox silty clay loam, 2 to 5 percent slopes, severely eroded (WcB3).—This soil differs from Wilcox silty clay loam, 2 to 5 percent slopes, eroded, in having all or nearly all the original surface layer removed by erosion. The reddish-brown plow layer is a mixture of the original surface layer and the subsoil. It is finer textured than the surface layer of Wilcox silty clay loam, 2 to 5 percent slopes, eroded. A few rills and deep gullies are in some fields.

Erosion is a severe hazard on this soil. All of the acreage has been cleared and used for pasture and crops at one time, but in recent years, some of it has reverted to pines. The soil is best suited to pasture and pine trees. (Capability unit IVe–2; woodland suitability group 4)

Wilcox silty clay loam, 5 to 8 percent slopes, eroded (WcC2).—The surface layer of this soil is brown to dark-brown silty clay loam 2 to 4 inches thick. In most fields the reddish-brown subsoil is exposed in fairly large areas where the plow layer includes the upper subsoil. Small rills and a few deep gullies are common in some fields. The subsoil is mottled red and brown silty clay or clay.

The soil is strongly acid and has low natural fertility. The available moisture capacity is moderate, runoff is rapid, and the subsoil is slowly permeable. Erosion is a hazard.

About 50 percent of the acreage has been cleared and used for pasture or crops. In recent years, however, some of it has reverted to trees. The soil is best suited to pasture and trees. (Capability unit IVe–2; woodland suitability group 4)

Wilcox silty clay loam, 5 to 8 percent slopes, severely eroded (WcC3).—All or nearly all the original surface layer of this soil has been removed by erosion, and the reddish-brown plow layer is a mixture of the surface layer and the subsoil. The surface layer is slightly finer textured than that of Wilcox silty clay loam, 2 to 5 percent slopes, eroded. Rills and a few deep gullies are common in most fields. The subsoil is a mottled red and brown silty clay or clay.

The soil is strongly acid and has low natural fertility. The available moisture capacity is moderate. Runoff is rapid, and erosion is a severe hazard.

Nearly all the acreage has been cleared and used for pasture and crops, but some of it is now idle and some has reverted to pines. This soil is best suited to pasture and trees. (Capability unit VIe–2; woodland suitability group 4)

Wilcox silty clay loam, 8 to 12 percent slopes, severely eroded (WcD3).—Erosion has removed all or nearly all the original surface layer of this soil, and the reddish-brown plow layer is a mixture of the surface layer and the upper subsoil. The surface layer is slightly finer textured than that of Wilcox silty clay loam, 2 to 5 percent slopes, eroded. A few deep gullies, not crossable by farm machinery, have formed in some areas. The subsoil is mottled red and brown silty clay or clay. Included in the mapping are a few areas that are only moderately eroded.

This soil has low natural fertility and is strongly acid. Runoff is rapid, and erosion is a severe hazard.

About 75 percent of the acreage has been cleared and used for pasture and crops, but a large percentage of it has reverted to trees, and some of it is idle. This soil is best suited to pasture and trees. (Capability unit VIe–2; woodland suitability group 4)

Use and Management of Soils

The management of soils for crops and pasture, the management of woodland, the use of soils for wildlife and fish, and engineering uses of soils are discussed in this section.

Managing Soils for Crops and Pasture [1]

In this subsection (1) some general practices for managing crops and pasture are discussed, (2) the capability grouping of soils is outlined and explained, (3) suggestions are given for managing the soils in the capability units, and (4) estimated yields of principal crops are given.

General practices

Cultivated crops.—Cultivation reduces the supply of organic matter, removes plant nutrients from the soil, and increases the hazard of erosion. A soil is protected and its productivity maintained by a cropping system that provides perennial sod or annual cover crops between periods of clean cultivation. Sod crops and cover crops that are returned to the soil help to maintain the supply of organic matter, and while they are growing, they protect the soil from erosion. The length of time that soils should be cultivated, compared to the time they should have a cover, or sod crop, depends on the nature of the soil, including its slope and hazard or extent of erosion.

[1] T. R. TAYLOR, management agronomist, SCS, helped prepare this section.

Fertilizer should be applied on all cropland, for the soils in the county are low to moderate in plant nutrients. Additions of fertilizer increase yields and the amount of crop residue as well. The needs of different crops vary, but farmers can find out from the county agricultural agent or the Mississippi State University Agricultural Experiment Stations how much fertilizer is needed for each crop and how it should be applied.

Surface runoff on bare soils must be controlled to sustain high yields. If runoff is slowed, the hazard of erosion is reduced and the water has more time to soak into the soil. Terraces, contour cultivation, and wide strips of close-growing crops are commonly used to control runoff and erosion. The water from the terraces should be discharged into well-stabilized waterways or into areas with dense vegetation. Natural draws make the best waterways.

In contour cultivation the furrows are plowed across the slope in the same direction that the terraces extend. The furrows act as individual small terraces that slow the water as it moves down the slope and at the same time, the water is carried across the slope. On the gently sloping soils, contour cultivation is generally sufficient to control runoff.

Some of the soils in the county have surface drainage and internal drainage problems. Draining these soils requires structural devices such as mains and laterals, with surface field drains leading to them. Diversions are needed to control hill water for protection of the bottom land.

Pasture.—Good pasture serves several purposes. The sod protects the soil against erosion, supplies food for livestock, and improves the soil by adding organic matter and making the soil more porous. Many pasture plants are suited to the soils of Calhoun County, but the grazing capacity of pastures depends, to a large extent, on the amount of fertilizer applied. Regular additions of fertilizer and lime are profitable on all pastures. The amount and frequency of application should be determined by soil tests.

Grazing should be so regulated that pasture plants have time to recover after they are grazed. The purpose is to produce as much forage as possible and conserve the soil.

Capability groups of soils

The capability classification is a grouping of soils that shows, in a general way, how suitable the soils are for most kinds of farming. It is a practical grouping based on limitations of the soils, the risk of damage when they are used, and the way they respond to treatment.

In this system all the kinds of soil are grouped at three levels—the capability class, subclass, and unit. The eight capability classes in the broadest grouping are designated by Roman numerals I through VIII. In class I are the soils that have few limitations, the widest range of use, and the least risk of damage when they are used. The soils in the other classes have progressively greater natural limitations. In class VIII are soils and landforms so rough, shallow, or otherwise limited that they do not produce worthwhile yields of crops, forage, or wood products.

The subclasses indicate major kinds of limitations within the classes. Within most of the classes there can be up to four subclasses. The subclass is indicated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* means that water in or on the soil will interfere with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the country, indicates that the chief limitation is climate that is too cold or too dry.

In class I there are no subclasses, because the soils of this class have few or no limitations. Class V can contain, at the most, only subclasses *w*, *s*, and *c*, because the soils in it have little or no erosion hazard but have other limitations that limit their use largely to pasture, range, woodland, or wildlife food and cover.

Within the subclasses are the capability units, which are groups of soils enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity and other responses to management. Thus, the capability unit is a convenient grouping of soils for making many statements about their management. Capability units are generally identified by numbers assigned locally, for example, IIe–1 or IIIe–2.

Soils are classified in capability classes, subclasses, and units according to their permanent limitations, but without consideration of major, and generally expensive, land-forming and reclamation that would change the slope, depth, or other characteristics of the soil.

The eight classes in the capability system, and the subclasses and units in this county, are described in the list that follows.

Class I. Soils that have few limitations that restrict their use. (No subclasses)—There are no soils in this class in Calhoun County.

Class II. Soils that have some limitations that reduce the choice of plants or require moderate conservation practices.

- Subclass IIe. Soils subject to moderate erosion if they are not protected.
  - Capability unit IIe–1.—Gently sloping, moderately well drained silty soils with a fragipan.
- Subclass IIw. Soils that have moderate limitations because of excess water.
  - Capability unit IIw–1.—Nearly level, moderately well drained soils of the flood plains; crops are subject to moderate damage from flooding.
  - Capability unit IIw–2.—Nearly level, somewhat poorly drained silty soils of the flood plains; crops are subject to slight to moderate damage from flooding.
  - Capability unit IIw–3.—Nearly level, somewhat poorly drained clayey soils of the flood plains; crops are subject to slight to moderate damage from flooding.

Class III. Soils that have severe limitations that reduce the choice of plants, or require special conservation practices, or both.

- Subclass IIIe. Soils subject to severe erosion if they are cultivated and not protected.
  - Capability unit IIIe–1.—Gently sloping, moderately well drained, eroded and severely eroded silty soils with a fragipan.
  - Capability unit IIIe–2.—Moderately sloping, somewhat poorly drained soils that have a silt loam surface layer and a silt loam or silty clay loam subsoil underlain by a fragipan or a clay layer.

Capability unit IIIe–3.—Gently sloping, somewhat poorly drained soils that are on uplands and have a silty clay loam surface layer and a silty clay or clay subsoil.

Subclass IIIw. Soils that have severe limitations because of excess water.

Capability unit IIIw–1.—Nearly level or gently sloping, somewhat poorly drained soils with a silt loam surface layer and a fragipan or clay layer.

Capability unit IIIw–2.—Nearly level, poorly drained soils that are on terraces and uplands and have a fragipan or clay layer.

Capability unit IIIw–3.—A land type on flood plains; crops are subject to moderate damage from flooding.

Class IV. Soils that have very severe limitations that restrict the choice of plants, require very careful management, or both.

Subclass IVe. Soils subject to very severe erosion if they are cultivated and not protected.

Capability unit IVe–1.—Severely eroded, moderately sloping, moderately well drained silty soils with a fragipan.

Capability unit IVe–2.—Somewhat poorly drained soils that are on uplands and have a silty clay loam surface layer and a silty clay or clay subsoil.

Capability unit IVe–3.—Strongly sloping, moderately well drained silty soils that are on uplands and have a fragipan.

Capability unit IVe–4.—Moderately well drained to well drained, strongly sloping, silty and sandy soils on uplands.

Subclass IVw. Soils that have very severe limitations for cultivation because of excess water.

Capability unit IVw–1.—Nearly level, poorly drained soils of the flood plains; crops are subject to severe damage from flooding; surface soil is silt loam or silty clay loam, and subsoil is silty clay loam, silty clay, or clay.

Capability unit IVw–2.—Nearly level, poorly drained soils that are on uplands and have a silty clay loam surface layer and a clay subsoil.

Class V. Soils that are not likely to erode but have other limitations, impractical to remove without major reclamations, that limit their use largely to pasture or range, woodland, or wildlife food and cover. There are no soils in this class in Calhoun County.

Class VI. Soils that have severe limitations that make them generally unsuitable for cultivation and that limit their use to pasture, woodland, or wildlife food and cover.

Subclass VIe. Soils severely limited, chiefly by risk of erosion, if protective cover is not maintained.

Capability unit VIe–1.—Severely eroded, moderately well drained, strongly sloping, silty soils that are on uplands and have a fragipan.

Capability unit VIe–2.—Moderately sloping to strongly sloping, somewhat poorly drained soils that are on uplands and have a silty clay loam surface layer and a clay subsoil.

Capability unit VIe–3.—Strongly sloping, moderately well drained to well drained, silty and sandy soils on uplands.

Class VII. Soils that have very severe limitations that make them unsuitable for cultivation without major reclamation, and that restrict their use largely to grazing, woodland, or wildlife food and cover.

Subclass VIIe. Soils very severely limited, chiefly by risk of erosion, if protective cover is not maintained.

Capability unit VIIe–1.—Severely eroded, gullied land.

Capability unit VIIe–2.—Steep to very steep, moderately well drained to excessively drained silty and sandy soils on uplands.

Class VIII. Soils and landforms that have limitations that preclude their use, without major reclamation, for commercial production of plants; and restrict their use to recreation, wildlife food and cover, water supply, or esthetic purposes. There are no soils in this class in Calhoun County.

Capability units

The soils of Calhoun County have been placed in 21 capability units, which are described in the following pages. The soils in each unit have essentially the same limitations, require about the same kind of management, and respond to management in about the same way. In the description of each capability unit, the characteristics and suitability of the soils for crops are discussed and suggestions are given for management.

CAPABILITY UNIT IIe–1

This capability unit consists of gently sloping, moderately well drained soils of uplands and terraces. These soils have a fragipan at about 24 inches. They have a very friable silt loam surface layer and a heavy silt loam or silty clay loam subsoil. The soils are—

Dulac silt loam, 2 to 5 percent slopes, eroded.
Freeland silt loam, 2 to 5 percent slopes, eroded.
Providence silt loam, 2 to 5 percent slopes, eroded.

These soils are moderately eroded. Infiltration is slow. Permeability is moderate in the upper subsoil but slow in the fragipan. Also, the fragipan greatly retards root growth. The soils have moderate available moisture capacity. They are medium to strongly acid, contain little organic matter, and have moderate natural fertility. Crops grown on them respond well to fertilizer and lime. The soils work easily but crust and pack when bare, and a plowpan forms.

Soils of this capability unit occupy little more than 1 percent of the county. About half the acreage is cultivated, and the rest is used for pasture and trees.

The soils are well suited to cotton, corn, soybeans, sweetpotatoes, grain sorghum, and similar row crops. They are also suited to Coastal bermudagrass, bermudagrass, bahiagrass, tall fescue, wild winter peas, vetch, annual lespedeza, sericea lespedeza, crimson clover, and white clover.

If cultivated and not protected, these soils erode. Erosion can be controlled, however, by using cropping systems and water-control measures that reduce the speed of runoff. With good conservation practices, these soils can be used for row crops continuously. Row crops can also

be grown in a rotation with perennial grasses or legumes, or both, or in a rotation with small grain with or without legumes. Crop residue, shredded and left on the surface, helps control erosion and increase infiltration. Also, contour cultivation and sodded waterways help control erosion by reducing the speed of runoff. On the longer slopes, terraces help to control erosion. Fertilizer and lime are necessary for high yields of crops and pasture.

CAPABILITY UNIT IIw-1

This capability unit consists of moderately well drained, alluvial soils. Crops grown on them are subject to moderate damage from flooding. These soils have a very friable silt loam surface layer, and a silt loam or silty clay loam subsoil. The soils are—

Collins silt loam.
Collins silt loam, local alluvium.

The slopes of these soils are less than 2 percent in most areas but are 3 or 4 percent in a few areas of Collins silt loam, local alluvium. Infiltration is slow, permeability is moderate, and the available moisture capacity is high. These soils contain little organic matter. They are moderate in natural fertility and strongly acid, but are among the most productive soils in the county. They work easily but tend to crust, to pack, and to form a plowpan.

These soils occupy almost 4 percent of the county. More than half of the total area is cultivated. Most of the rest is in trees, and some is in pasture.

The soils are well suited to row crops such as cotton, corn, soybeans, and grain sorghum, and to pasture plants such as Coastal bermudagrass, bermudagrass, bahiagrass, wild winter peas, vetch, lespedeza, and white clover. They are also suited to small grain, tall fescue, and dallisgrass.

Because these soils dry out slowly in spring, seedbed preparation and planting are sometimes delayed, but excess surface water can be removed by V- and W-ditches and by graded rows. If they are well managed, these soils can be used for row crops continuously. Crop residue should be shredded and left on the surface as a mulch. Streambanks and overfalls should be stabilized. Lime and complete fertilizer should be applied to obtain high yields of crops and pasture.

CAPABILITY UNIT IIw-2

This capability unit consists of somewhat poorly drained, alluvial soils on which crops are subject to slight or moderate damage from flooding. These soils have a very friable silt loam surface layer and a silt loam or silty clay loam subsoil. The soils are—

Falaya silt loam.
Falaya silt loam, local alluvium.

The slopes of these soils are less than 2 percent except in a few areas of local alluvium, where they are 3 or 4 percent. Infiltration is slow, and permeability is moderate to slow. The available moisture capacity is high. These soils have moderate natural fertility, contain little organic matter, and are strongly acid. Crops grown on them respond well to fertilizer and lime. The soils crust and pack, and a plowpan forms.

The soils in this unit occupy nearly 16 percent of the county. More than half of their acreage is cultivated, and the rest is used for trees and pasture.

These soils are well suited to corn. They are suited also to cotton, soybeans, grain sorghum, and small grains other than barley, and to Coastal bermudagrass, bermudagrass, bahiagrass, wild winter peas, vetch, lespedeza, and white clover.

Where a plowpan has formed, plant roots, internal drainage, and available moisture may be restricted to the layer above the pan. To break the plowpan, use subsoiling or deep plowing in the fall when the soil is dry. These soils dry out slowly, and sometimes seedbed preparation is delayed, but excess surface water can be removed by V- and W-ditches and by graded rows. Caving streambanks and overfalls are serious problems in some areas. Diversion ditches are necessary where water from hillsides is a problem. If they are managed well, these soils can be used for row crops continuously; or they can be used for row crops grown in a rotation with small grains alone or small grains seeded with legumes. Lime and complete fertilizer are necessary for high yields of crops and pasture.

CAPABILITY UNIT IIw-3

Urbo silty clay loam is the only soil in this capability unit. It is a somewhat poorly drained alluvial soil, and crops grown on it are subject to slight to moderate damage from flooding. The surface layer of this soil is silty clay loam, and the subsoil is silty clay or clay.

This soil has slopes of 0 to 2 percent. Infiltration and permeability are slow, and the available moisture capacity is moderate to high. The soil has moderate natural fertility, contains little organic matter, and is strongly acid. Crops grown on it respond well to fertilizer and lime. The soil crusts and packs when it is bare.

The total area of this soil is about 4 percent of the county. More than half is cultivated, most of the rest is in trees or pasture, and a small part is idle.

This soil is suited to cotton (fig. 2), corn, soybeans, and grain sorghum, and to bermudagrass, tall fescue, dallisgrass, bahiagrass, vetch, wild winter peas, ryegrass, annual lespedeza, and white clover.

Figure 2.—**Harvesting cotton on Urbo silty clay loam.**

The soil is difficult to work. It becomes cloddy if cultivated when too wet. Seedbeds should be prepared in the fall to allow weathering and settling. A good stand is often hard to get. Removing surface and overflow water is a problem, but surface water can be removed by V- or W-ditches and by graded rows. Diversions may be necessary where this soil receives water from hillsides. Crop residue should be shredded and left on the surface as a mulch as soon after harvest as possible. Row crops can be grown continuously if good management practices are followed, or they can be rotated with perennial grasses or legumes. Lime and complete fertilizer are necessary for high yields of crops and pasture.

CAPABILITY UNIT IIIe-1

This capability unit consists of moderately well drained, acid soils on uplands and terraces. These soils have a fragipan at about 20 inches. Their surface layer is friable heavy silt loam, and their subsoil is heavy silt loam or silty clay loam. The soils are—

Dulac silt loam, 2 to 5 percent slopes, severely eroded.
Dulac silt loam, 5 to 8 percent slopes, eroded.
Freeland silt loam, 2 to 5 percent slopes, severely eroded.
Providence silt loam, 2 to 5 percent slopes, severely eroded.
Providence silt loam, 5 to 8 percent slopes, eroded.

Infiltration is slow, and permeability is moderate in the upper subsoil but slow in the fragipan. These soils have moderate available moisture capacity. They contain little organic matter and have moderate natural fertility. Crops grown on them respond well to fertilizer and lime.

These soils occupy nearly 3 percent of the county. More than half of the acreage is cultivated, and the rest is in pasture or trees or is idle.

The soils are well suited to cotton, corn, soybeans, grain sorghum, and similar row crops. They are also well suited to small grains and to pasture plants such as Coastal bermudagrass, bermudagrass, dallisgrass, bahiagrass, tall fescue, wild winter peas, annual lespedeza, sericea lespedeza, vetch, crimson clover, and sudangrass.

Erosion is a severe hazard on these soils. They work easily but crust and pack when bare. They respond well to good management, however, which requires that they be protected by a vegetative cover as much as practical to control erosion, reduce crusting and packing, and increase the infiltration rate. These soils should be used in a cropping system that includes 2 years of close-growing crops for each year of row crops. An example of a suitable cropping system is 4 years of small grain or perennial grasses and 2 years of corn or cotton. Crop residue, shredded and left on the surface, helps control erosion and increase infiltration. Tillage on the contour and sodded waterways are effective in controlling runoff, and on the longer slopes, terraces are effective. Fertilizer and lime are necessary for high yields of crops and pasture.

CAPABILITY UNIT IIIe-2

This capability unit consists of somewhat poorly drained, acid soils of the uplands. These soils have a fragipan or a clay layer at about 18 inches. Their surface layer is very friable silt loam, and their subsoil is silt loam or silty clay loam. The soils are—

Bude silt loam, 5 to 8 percent slopes.
Falkner silt loam, 5 to 8 percent slopes, eroded.

Erosion is slight to moderate on these soils. Infiltration is slow. Permeability is moderate in the upper subsoil but slow in the fragipan or clay, and root penetration is greatly retarded in the fragipan or the clay layer. Because root growth is restricted to the upper 18 inches, these soils are droughty in the summer. They contain little organic matter and have low natural fertility. Crops grown on them show a moderate response to lime and fertilizer. The soils work easily but crust and pack when bare, and a plowpan forms.

The total area of these soils is less than 1 percent of the county. About half of the acreage is in forest. The rest is mostly in pasture and crops, and some is idle.

The soils of this unit are suited to corn, sweetpotatoes, and similar commonly grown row crops. They are also suited to small grains and to pasture plants such as Coastal bermudagrass, dallisgrass, bahiagrass, wild winter peas, vetch, annual lespedeza, and white clover.

If the soils are cultivated, the slopes cause moderate runoff and erosion. In addition, winter wetness, summer dryness, and low fertility are problems that must be considered in planning good management.

Erosion can be controlled by using cropping systems and water control measures that slow down and reduce the amount of runoff. These soils should be used in a cropping system that includes 2 years of close-growing crops for each year of row crops. An example is 4 years of small grain or perennial grasses and 2 years of corn or sweetpotatoes. Tillage on the contour and sodded waterways are effective in controlling runoff, and on the longer slopes, terraces are effective. Crop residue, shredded and left on the surface, helps to control erosion and increase the infiltration rate. Fertilizer is necessary for high yields of crops and pasture.

CAPABILITY UNIT IIIe-3

Wilcox silty clay loam, 2 to 5 percent slopes, eroded, is the only soil in this capability unit. It is a somewhat poorly drained, acid soil of the uplands. The surface layer is silty clay loam, and the subsoil is silty clay or clay.

Infiltration and permeability are slow in this soil. It has moderate available moisture capacity, contains little organic matter, and has low natural fertility. This soil makes up less than 1 percent of the county area, and most of it is in trees.

The soil is suited to the commonly grown pasture plants such as bermudagrass, dallisgrass, bahiagrass, sudangrass, annual lespedeza, sericea lespedeza, and white clover.

This soil is difficult to work, and stands of crops are often hard to get. Seedbed preparation and cultivation are delayed during wet seasons. The soil should be protected by a cover crop as much as possible to control erosion, reduce crusting and packing, and increase the infiltration rate. Two years of close-growing crops are necessary for each year of row crops—for example, 4 years of perennial grasses and 2 years of row crops. Tillage on the contour and grassed waterways are necessary if the soil is used for row crops. On the longer slopes, terraces are necessary for controlling erosion. Crop residue, shredded and left on the surface, helps to control erosion and increase the infiltration rate. Fertilizer and lime are necessary for high yields of crops and pasture.

CAPABILITY UNIT IIIw-1

This capability unit consists of somewhat poorly drained, acid soils on uplands and terraces. These soils have a fragipan or a clay layer at about 18 inches. Their surface layer is friable silt loam, and their subsoil is silt loam or silty clay loam. The soils are—

Bude silt loam, 2 to 5 percent slopes.
Bude silt loam, 2 to 5 percent slopes, eroded.
Falkner silt loam, 2 to 5 percent slopes.
Falkner silt loam, 2 to 5 percent slopes, eroded.
Hatchie silt loam, 0 to 2 percent slopes.
Hatchie silt loam, 2 to 5 percent slopes.
Hatchie silt loam, 2 to 5 percent slopes, eroded.

Water stands on the more level areas of these soils in winter and spring. Erosion is slight to moderate. Root penetration is greatly restricted in the fragipan or clay layer. Because root growth is restricted largely to the upper 18 inches, these soils tend to be droughty in the summer. Crops show a moderate response to lime and fertilizer. These soils work easily but crust and pack when bare, and plowpans form.

The soils in this unit occupy nearly 5 percent of the county and are used chiefly for crops and pasture.

The soils are suited to cotton, corn, sweetpotatoes, soybeans, and similar row crops (fig. 3). They are also suited to small grains and to pasture plants such as Coastal bermudagrass, bermudagrass, tall fescue, dallisgrass, bahiagrass, wild winter peas, white clover, vetch, and annual lespedeza (fig. 4).

In planning the management of these soils, the problems to consider are (1) the removal of excess surface water on the nearly level areas, (2) the slight to moderate erosion on the gently sloping areas, (3) the summer dryness, and (4) the low fertility.

Excess surface water can be removed by V- and W-ditches and by graded rows. Erosion can be controlled by cropping systems and water control measures that reduce the velocity of runoff. If well managed, these soils can be used for row crops continuously. Row crops can also be grown in rotation with perennial grasses or legumes, or both, or in rotation with small grain with or without legumes.

Figure 3.—**Harvesting sweetpotatoes on soil in capability unit IIIw-1.**

Figure 4.—**Commercial herd of beef cattle grazing Kentucky 31 fescue and white clover in the fall on soil in capability unit IIIw-1.**

Crop residue, shredded and left on the surface, helps to control erosion, reduce crusting and packing, and increase the infiltration rate. Where plowpans are present, subsoiling or deep plowing should be done in the fall when the soil is dry. Tillage on the contour and sodded waterways are effective in controlling runoff. Fertilizer and lime are necessary for best yields of crops and pasture.

CAPABILITY UNIT IIIw-2

This capability unit consists of poorly drained, acid soils of uplands and terraces. These soils have a fragipan or a clay layer at about 18 inches. Their surface layer is silt loam, and the upper subsoil is silt loam or silty clay loam. Slopes range from 0 to 2 percent. The soils are—

Almo silt loam.
Henry silt loam.
Tickfaw silt loam.

Water stands on the more level areas in the winter and spring. Infiltration is slow. Permeability is moderate in the upper subsoil but slow in the fragipan or clay layer. The available moisture capacity is moderate. These soils contain little organic matter and have low natural fertility. They work easily but pack and crust when bare.

These soils occupy a little more than 2 percent of the county. They are used chiefly for pasture and crops, but a fairly large acreage is in cutover woods or is idle.

Soils of this unit are suited to special truck crops and to pasture plants such as Coastal bermudagrass, bahiagrass, white clover, and annual lespedeza.

The removal of excess surface water is a problem on these soils. They cannot be cultivated and planted until late in the season. Low fertility and summer dryness also must be considered in planning good management.

Excess surface water can be removed by the use of V- and W-ditches and by graded rows. Two years of close-grow-

ing crops are necessary for each year of row crops on these soils. An example of a suitable cropping system is 4 years of perennial grasses and 2 years of sweet-potatoes. Fertilizer and lime are needed for best yields of crops and pasture.

CAPABILITY UNIT IIIw-3

Mixed alluvial land is the only mapping unit in this capability unit. Crops grown on this land type are damaged only moderately by floods. The soil materials of Mixed alluvial land are variable and highly stratified and range from sandy loam or silt loam to loamy sand and sand. Drainage ranges from good to somewhat poor. There are numerous surface irregularities.

Slopes range from 0 to 2 percent. Infiltration and permeability are slow to moderate, and the available moisture capacity is moderate to low. The content of organic matter and the natural fertility are also low.

This land type occupies less than 1 percent of the county. About 25 percent of it is cultivated, 25 percent is pastured, 15 percent is idle, and 35 percent is in trees.

Mixed alluvial land is suited to cotton, corn, soybeans, and similar row crops. It is also suited to small grain and to pasture plants such as bermudagrass, tall fescue, bahiagrass, and annual lespedeza.

Maintaining the drainage system is a problem because floods fill the ditches with sand and silt. Seedbed preparation and cultivation can be done within a fairly wide range of moisture conditions. Mixed alluvial land can be used for row crops continuously if it is well managed; or it can be used for row crops in rotation with small grain grown with or without legumes. Crop residue should be shredded and left on the surface as a mulch when the land is not being cultivated. Diversions are needed where hillside water is sometimes a problem. Surface water can be removed by V- and W-ditches and by graded rows. Fertilizer and lime are necessary for best yields of crops and pasture.

CAPABILITY UNIT IVe-1

This capability unit consists of moderately well drained, acid soils of uplands and terraces. These soils have a fragipan at about 20 inches. Their surface layer is silt loam and the subsoil is heavy silt loam or silty clay loam. The soils are—

Dulac silt loam, 5 to 8 percent slopes, severely eroded.
Freeland silt loam, 5 to 8 percent slopes, severely eroded.
Providence silt loam, 5 to 8 percent slopes, severely eroded.

Infiltration is slow in these soils. Permeability is moderate in the upper subsoil but slow in the fragipan, and the available moisture capacity is moderate. The soils contain little organic matter and have moderate natural fertility. They work fairly easily when the moisture content is medium, but they crust and pack when bare.

The soils of this unit occupy a little more than 5 percent of the county. About half the acreage is in trees. The rest is mostly in pasture and crops, and some of it is idle.

These soils are suited to cotton, corn, soybeans, grain sorghum, and similar row crops. They are also suited to small grains, and to pasture plants such as Coastal bermudagrass, bermudagrass, dallisgrass, bahiagrass, tall fescue, wild winter peas, annual lespedeza, sericea lespedeza, crimson clover, white clover, and sudangrass.

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Erosion is a severe hazard if these soils are cultivated. If they are used for row crops, they should be terraced and drained by grassed waterways. Cultivation and other field operations should be on the contour. These soils should be kept in sod crops 3 years in every 4—for example, 6 years of perennial grasses followed by 2 years of cotton. They should have a cover on the surface as much as possible to reduce the erosion hazard, reduce crusting and packing, and increase the infiltration rate. Crop residue should be shredded and left on the surface as a mulch when the soils are not being cultivated. If the soils are used for pasture, careful management is required, including prevention of overgrazing. Fertilizer and lime are necessary for best yields of pasture and row crops.

CAPABILITY UNIT IVe-2

This capability unit consists of somewhat poorly drained, acid soils of uplands. Their surface layer is silty clay loam, and their subsoil is silty clay or clay. The soils are—

Wilcox silty clay loam, 2 to 5 percent slopes, severely eroded.
Wilcox silty clay loam, 5 to 8 percent slopes, eroded.

Erosion is moderate to severe on these soils. Infiltration and permeability are slow, and the available moisture capacity is moderate. The content of organic matter and the natural fertility are low.

The soils in this unit occupy less than 1 percent of the county. Most of the acreage is in trees, but small areas are cultivated or used for pasture.

These soils are suited to pasture, trees, and some row crops. Because of the slope and erosion, however, they are best suited to permanent pasture. Bahiagrass, sericea lespedeza, and white clover are suitable pasture plants.

These soils are difficult to manage. They are hard to cultivate, and stands of crops are often hard to produce. Because the soils are susceptible to erosion, their use for row crops is limited. If row crops are urgently needed, they should be planted in a cropping system that keeps the soils in sod crops 3 years in every 4. The soils should be protected by a cover crop as much of the time as possible to reduce the erosion hazard and increase the infiltration rate. If used for row crops, these soils should be terraced, drained by grassed waterways, and tilled on the contour. If used for pasture, these soils should be carefully managed, especially to prevent overgrazing. Complete fertilizer and lime are necessary for high yields.

CAPABILITY UNIT IVe-3

This capability unit consists of moderately well drained, acid soils of uplands. These soils have a fragipan at about 24 inches. Their surface layer is friable silt loam, and their subsoil is heavy silt loam or silty clay loam. The soils are—

Dulac silt loam, 8 to 12 percent slopes, eroded.
Providence silt loam, 8 to 12 percent slopes, eroded.

Erosion is moderate, and infiltration is slow on these soils. Permeability is moderate in the upper subsoil but slow in the fragipan, and the available moisture capacity is moderate. These soils contain little organic matter and have moderate natural fertility.

The soils of this unit occupy less than 1 percent of the county. Most of the acreage is in trees. A small acreage is used for pasture and crops.

These soils are suited to cotton, corn, soybeans, grain sorghum, and similar row crops. They are also suited to small grains, and to pasture plants such as Coastal bermudagrass, bermudagrass, dallisgrass, bahiagrass, tall fescue, wild winter peas, annual lespedeza, sericea lespedeza, crimson clover, white clover, and sudangrass.

Because of the slopes and the erosion hazard, these soils are limited in their use for row crops. If row crops are grown, the cropping system should include sod crops 3 years in every 4. An example of a suitable cropping system is 6 years of perennial grasses and 2 years of cotton or corn. If used for crops, these soils should have a complete water disposal system, including terraces, grassed waterways, and rows on the contour. Crop residue should be shredded and left on the surface as a mulch when the soils are not being cultivated. Complete fertilizer and lime are necessary for best yields of row crops and pasture. If used for pasture, these soils should not be overgrazed.

CAPABILITY UNIT IVe–4

This capability unit consists only of Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes. The soils in this undifferentiated mapping unit do not occur in a regular pattern. They vary in extent and distribution. Their surface layer varies from silt loam to sandy loam, and the underlying material from silty clay loam to loamy sand to sandy clay. Infiltration and permeability are variable, and available moisture capacity ranges from low to moderate. Erosion is slight or none. The content of organic matter and the natural fertility are also variable.

The soils of this unit occupy less than 1 percent of the county and are chiefly in trees.

These soils are suited to pasture, trees, and some row crops. Because of the slopes and erosion hazard, however, they are best suited to permanent pasture. Bermudagrass, bahiagrass, crimson clover, annual lespedeza, and sericea lespedeza are suitable pasture plants.

If row crops are grown, the cropping system should also include sod crops 3 years in every 4. An example of a suitable cropping system is 6 years of perennial grasses and 2 years of row crops. If used for row crops, these soils should be terraced, drained by grassed waterways, and tilled on the contour. Crop residue should be shredded and left on the ground as a mulch. Complete fertilizer and lime are necessary for best yields of crops and pasture. Pastures should not be overgrazed.

CAPABILITY UNIT IVw–1

This capability unit consists of poorly drained, acid, alluvial soils on which crops are subject to severe damage from flooding. Their surface layer is silt loam and silty clay loam, and their subsoil is silt loam, silty clay loam, or silty clay. The soils are—

Chastain silt loam.
Chastain silty clay loam.
Waverly silt loam.

The slopes of these soils range from 0 to 2 percent. Infiltration and permeability are slow in the Chastain soils and moderate to slow in the Waverly soil. The available moisture capacity is moderate to high. These soils contain little organic matter and have low natural fertility. They crust and pack when bare. Crops grown on them show a moderate response to fertilizer and lime.

These soils occupy more than 8 percent of the county.

About 40 percent of the acreage is in trees, 33 percent is in pasture, 20 percent is cultivated, and the rest is idle.

Because of flooding and wetness, these soils are best suited to hay, pasture, and trees and to occasional late-season row crops. Bermudagrass, dallisgrass, annual lespedeza, and white clover are suitable pasture plants (figs. 5 and 6). These soils are fairly well suited to cotton, corn, and soybeans.

Water stands on the surface of these soils for long periods, especially in winter and spring. Plowing and land preparation should be done when the soils are not wet. Most of the soils are suited to pasture for summer grazing, but excessive wetness limits winter grazing. Surface water should be removed by V- and W-ditches and field lateral ditches. Drainage is probably not feasible in some areas. Complete fertilizer and lime are necessary for best yields.

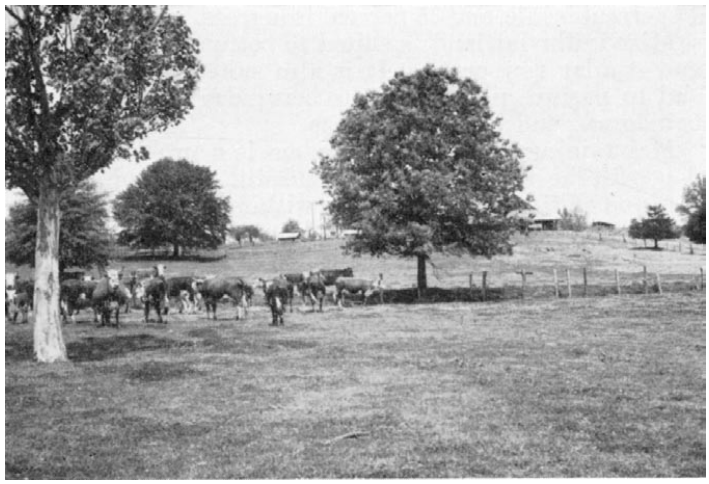

Figure 5.—**Hereford cattle grazing white clover and dallisgrass on soil in capability unit IVw–1.**

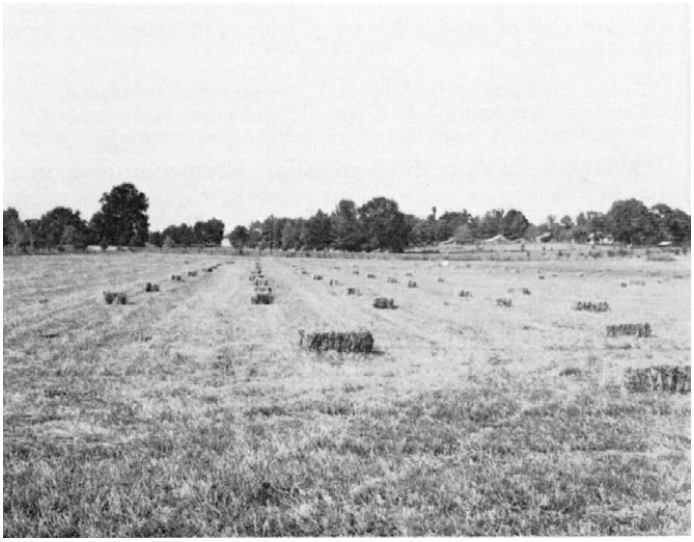

Figure 6.—**Harvesting hay on soil in capability unit IVw–1.**

CAPABILITY UNIT IVw-2

Mayhew silty clay loam, the only soil in this capability unit, is a poorly drained, acid soil of the uplands. The surface layer is silty clay loam, and the subsoil is clay.

Infiltration and permeability are slow in this soil. The available moisture capacity is low to moderate. The soil contains little organic matter and has low natural fertility. The slopes range from 0 to 2 percent.

This soil occupies less than 1 percent of the county. Most of the acreage is in trees, but some areas are cultivated or used for pasture.

The soil is suited to a limited number of truck crops and to grain sorghum. It is also suited to pasture plants such as bermudagrass, wild winter peas, annual lespedeza, and white clover.

Water stands on the surface of this soil for long periods, especially in the winter and spring. Cultivation may be delayed because of the narrow moisture range within which the soil can be worked. Seedbeds should be prepared in the fall to allow weathering and settling. Graded rows and V- and W-ditches help to remove surface water. Two years of close-growing crops are necessary for each year of row crops on this soil. An example would be 4 years of perennial grasses and 2 years of sweetpotatoes. Complete fertilizer and lime are necessary for best yields of pasture and crops.

CAPABILITY UNIT VIe-1

This capability unit consists of moderately well drained, acid soils of the uplands. These soils have a fragipan at about 20 inches. Their surface layer is silt loam and the subsoil is silty clay loam. The soils are—

Dulac silt loam, 8 to 12 percent slopes, severely eroded.
Providence silt loam, 8 to 12 percent slopes, severely eroded.

Erosion is severe on these soils. Infiltration is slow, and permeability is moderate in the upper subsoil but slow in the fragipan. The available moisture capacity is moderate. These soils contain little organic matter and have moderate natural fertility.

The soils of this unit occupy a little more than 2 percent of the county. The acreage is mostly in trees, but some areas are cultivated, and some are used for pasture.

These soils are well suited to bermudagrass, bahiagrass, wild winter peas, annual lespedeza, sericea lespedeza, crimson clover, and similar pasture plants.

These soils should be kept in permanent pasture and properly managed to protect them from further erosion, to increase the infiltration rate, and to control the runoff. Pastures should not be overgrazed. Lime and complete fertilizer are necessary for best yields.

CAPABILITY UNIT VIe-2

This unit consists of somewhat poorly drained, acid soils on uplands. Their surface layer is silty clay loam and their subsoil is clay. The soils are—

Wilcox silty clay loam, 5 to 8 percent slopes, severely eroded.
Wilcox silty clay loam, 8 to 12 percent slopes, severely eroded.

Erosion is severe on these soils. Infiltration and permeability are slow, and the available moisture capacity is moderate. These soils contain little organic matter and have low natural fertility.

The total area of these soils is less than 1 percent of the county, and most of it is in trees.

These soils are suited to bermudagrass, dallisgrass, bahiagrass, sundangrass, annual lespedeza, sericea lespedeza, white clover, and similar pasture plants.

The soils should be in permanent pasture and should be properly managed to protect them from further erosion, increase infiltration, and decrease runoff. Pastures should not be overgrazed. Complete fertilizer and lime are necessary for pastures.

Diversions may be needed to control the water during the periods of plant establishment and to protect critical areas.

CAPABILITY UNIT VIe-3

Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes, severely eroded, are the only soils in this capability unit. These soils are in an undifferentiated mapping unit, and they do not occur in a regular pattern. They vary in extent and distribution. Their surface layer varies from silt loam to sandy loam and the underlying material from silty clay loam to loamy sand to sandy clay. Infiltration and permeability are variable, and the available moisture capacity ranges from low to moderate. Erosion is severe. The content of organic matter and the natural fertility are also variable.

The soils of this unit occupy a little more than 1 percent of the county, and most of the acreage is in trees.

These soils are suited to bermudagrass, bahiagrass, crimson clover, annual lespedeza, sericea lespedeza, and similar pasture plants (fig. 7).

The soils should be kept in perennial pasture plants to protect them from further erosion and to increase the infiltration rate. If they are used for pasture, complete fertilizer and lime are necessary. Pastures should not be overgrazed.

CAPABILITY UNIT VIIe-1

This capability unit consists only of Gullied land, a land type so severely eroded that it is mostly an intricate pattern of gullies. Soil profiles have been destroyed except in small areas between gullies. Soil materials are acid and range from silt to sand to clay. Infiltration and permeability are also variable, and runoff is high. The avail-

Figure 7.—**Third-year sericea lespedeza on soil in capability unit VIe-3.**

able moisture capacity is low. The slopes of Gullied land range from 2 to 35 percent.

This unit occupies nearly 8 percent of the county. Most of the acreage is in trees or is idle, but some of it is included in pasture.

A well-managed, permanent cover of trees is needed to control erosion and reduce the deposits of sediment on lower areas. Woodland should be protected from wildlife, and grazing should be controlled.

CAPABILITY UNIT VIIe-2

This capability unit consists of three mapping units of undifferentiated soils that do not occur in regular patterns. These soils vary in extent and distribution. The soils are—

Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes.
Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes, severely eroded.
Orangeburg and Eustis soils, 17 to 35 percent slopes.

The Cuthbert, Dulac, and Ruston soils have a silt loam to sandy loam surface layer and a silty clay loam to loamy sand subsoil. The Orangeburg and Eustis soils have a surface layer ranging from sandy loam to loamy sand and a subsoil ranging from sandy clay loam to loamy sand. Infiltration and permeability are variable. Slopes range from 12 to 35 percent. Erosion is slight to severe. Available moisture capacity ranges from low to moderate. Organic-matter content and natural fertility are variable.

These soils occupy a little more than 37 percent of the county. More than 90 percent of the acreage is in trees. Some small areas are in pasture and crops.

These soils should be kept in permanent pasture to protect them from further erosion, increase infiltration, and decrease runoff. Grazing should be controlled on woodland.

Estimated yields of principal crops

Estimates of yields of the principal crops grown under two levels of management in Calhoun County are given in table 2. The higher yields are those obtained under improved practices, which are defined in this section. Under prevailing practices, yields generally are from 20 to 35 percent less.

The estimates are based on (1) yields obtained in long-term research experiments; (2) yields harvested on farms that cooperated in studies of soil management; (3) estimates by agronomists who have had much experience with the crops and soils in Calhoun County; and (4) the Mississippi Technical Guide for Agronomy of the Soil Conservation Service.

Data on yields obtained in experiments was adjusted to reflect the combined effects of slope, weather, and levels of management. If such data were not available, estimates were made by using available data for similar soils. All estimates are based on average rainfall over a long period of time and no irrigation.

In columns A are estimates of yields obtained under prevailing practices, and in columns B are those that can be obtained under improved practices. Estimates are not given if the soil is not commonly used for a specific crop or is not suited to it. Yields in columns B are based on the assumption that the alluvial soils had adequate drainage and that flooding was not a problem.

TABLE 2.—*Estimated average acre yields of the principal crops under two levels of management*

[Yields in columns A are obtained under common management practices; yields in columns B are to be expected under highest feasible management practices. Absence of figure indicates crop is not commonly grown]

Soil	Cotton lint		Corn		Soybeans		Sweetpotatoes [1]		Oats for grain		Common bermudagrass and legumes		Hay (bermudagrass and legumes)	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
	Lbs.	*Lbs.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Cow-acre-days* [2]	*Cow-acre-days* [2]	*Tons*	*Tons*
Almo silt loam							150	225			125	225	1. 3	2. 4
Bude silt loam, 2 to 5 percent slopes	450	600	50	65	18	25	225	300	50	70	140	235	1. 3	2. 5
Bude silt loam, 2 to 5 percent slopes, eroded	400	550	45	60	18	25	200	250	45	60	140	235	1. 3	2. 5
Bude silt loam, 5 to 8 percent slopes	400	500	30	50	18	25	200	250	45	60	140	235	1. 3	2. 5
Chastain silt loam	300	400	25	50	20	25					150	280	1. 5	2. 9
Chastain silty clay loam	300	400	25	50	20	25					150	280	1. 5	2. 9
Collins silt loam	700	850	60	90	30	40			50	80	210	300	2. 1	3. 2
Collins silt loam, local alluvium	700	850	60	90	30	40			50	80	210	300	2. 1	3. 2
Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes											70	150	1. 1	2. 1
Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes, severely eroded											70	150	1. 1	2. 1
Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes														
Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes, severely eroded														
Dulac silt loam, 2 to 5 percent slopes, eroded	450	600	45	65	18	25	200	250	50	80	170	280	1. 6	2. 9
Dulac silt loam, 2 to 5 percent slopes, severely eroded	350	500	35	50	15	20	200	250	50	70	140	240	1. 4	2. 4

See footnotes at end of table.

TABLE 2.—*Estimated average acre yields of the principal crops under two levels of management*—Continued

Soil	Cotton lint		Corn		Soybeans		Sweetpotatoes [1]		Oats for grain		Common bermudagrass and legumes		Hay (bermudagrass and legumes)	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
	Lbs.	*Lbs.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Cow-acre-days* [2]	*Cow-acre-days* [2]	*Tons*	*Tons*
Dulac silt loam, 5 to 8 percent slopes, eroded	400	550	30	45	15	20	200	250	50	70	170	280	1.6	2.9
Dulac silt loam, 5 to 8 percent slopes, severely eroded	300	450	20	35	----	----	150	200	40	50	140	240	1.4	2.4
Dulac silt loam, 8 to 12 percent slopes, eroded	----	----	----	----	----	----	----	----	----	----	140	240	1.4	2.4
Dulac silt loam, 8 to 12 percent slopes, severely eroded	----	----	----	----	----	----	----	----	----	----	140	240	1.4	2.4
Falaya silt loam	650	750	55	85	30	40	----	----	50	80	210	300	2.1	3.2
Falaya silt loam, local alluvium	650	750	55	85	30	40	----	----	50	80	210	300	2.1	3.2
Falkner silt loam, 2 to 5 percent slopes	425	575	40	55	18	25	225	300	45	60	140	235	1.3	2.5
Falkner silt loam, 2 to 5 percent slopes, eroded	400	550	35	50	18	25	200	250	45	60	140	235	1.3	2.5
Falkner silt loam, 5 to 8 percent slopes, eroded	----	----	----	----	----	----	----	----	----	----	140	235	1.3	2.5
Freeland silt loam, 2 to 5 percent slopes, eroded	450	625	50	65	18	25	200	250	50	80	180	290	1.8	3.0
Freeland silt loam, 2 to 5 percent slopes, severely eroded	375	525	40	55	15	20	200	250	50	70	150	250	1.5	2.6
Freeland silt loam, 5 to 8 percent slopes, severely eroded	325	450	20	35	----	----	175	200	40	50	140	240	1.4	2.4
Gullied land	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Hatchie silt loam, 0 to 2 percent slopes	450	600	50	65	18	25	225	300	50	70	140	235	1.3	2.5
Hatchie silt loam, 2 to 5 percent slopes	450	600	50	65	18	25	225	300	50	70	140	235	1.3	2.5
Hatchie silt loam, 2 to 5 percent slopes, eroded	400	550	45	60	18	25	200	250	45	60	140	235	1.3	2.5
Henry silt loam	----	----	----	----	----	----	150	225	----	----	125	225	1.3	2.4
Mayhew silty clay loam	----	----	----	----	----	----	150	225	----	----	125	225	1.3	2.4
Mixed alluvial land	300	400	25	50	----	----	----	----	----	----	150	280	1.5	2.9
Orangeburg and Eustis soils, 17 to 35 percent slopes	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Providence silt loam, 2 to 5 percent slopes, eroded	450	600	45	65	18	25	200	250	50	80	170	280	1.6	2.9
Providence silt loam, 2 to 5 percent slopes, severely eroded	350	500	35	50	15	20	200	250	50	70	140	240	1.4	2.4
Providence silt loam, 5 to 8 percent slopes, eroded	400	550	30	45	15	20	200	250	50	70	170	280	1.6	2.9
Providence silt loam, 5 to 8 percent slopes, severely eroded	325	450	20	35	----	----	150	200	40	50	140	240	1.4	2.4
Providence silt loam, 8 to 12 percent slopes, eroded	----	----	----	----	----	----	----	----	----	----	140	240	1.4	2.4
Providence silt loam, 8 to 12 percent slopes, severely eroded	----	----	----	----	----	----	----	----	----	----	140	240	1.4	2.4
Tickfaw silt loam	----	----	----	----	----	----	150	225	----	----	125	225	1.3	2.4
Urbo silty clay loam	450	550	40	70	20	25	----	----	50	80	210	300	2.1	3.2
Waverly silt loam	300	400	25	50	20	25	----	----	----	----	150	280	1.5	2.9
Wilcox silty clay loam, 2 to 5 percent slopes, eroded	----	----	----	----	----	----	----	----	----	----	125	225	1.3	2.4
Wilcox silty clay loam, 2 to 5 percent slopes, severely eroded	----	----	----	----	----	----	----	----	----	----	100	200	1.2	2.3
Wilcox silty clay loam, 5 to 8 percent slopes, eroded	----	----	----	----	----	----	----	----	----	----	125	225	1.3	2.4
Wilcox silty clay loam, 5 to 8 percent slopes, severely eroded	----	----	----	----	----	----	----	----	----	----	100	200	----	----
Wilcox silty clay loam, 8 to 12 percent slopes, severely eroded	----	----	----	----	----	----	----	----	----	----	100	200	1.2	2.3

[1] Total marketable bushels.

[2] The number of days a year that 1 animal unit can be supported on 1 acre without injury to the pasture. An animal unit is the equivalent of 1 mature cow, steer, or horse; 5 hogs; or 7 sheep or goats.

The improved practices, as defined, are based on research findings for all crops. They include the following:

1. Fertilization at planting, in accordance with the needs indicated by soil tests, by past cropping and fertilizing practices, and by recommendations of the Mississippi Agricultural Experiment Station.
2. Use of crop varieties and hybrids that are high yielding and suited to the area, as recommended by the Mississippi Agricultural Experiment Station.
3. Adequate seedbed preparation.
4. Planting or seeding by suitable methods, at recommended seeding rates and planting dates.
5. Inoculation of legumes.
6. Shallow cultivation of row crops.
7. Control of weeds, insects, and diseases.
8. Use of soil conserving cropping systems similar to those suggested in capability units of this report.
9. Control of water, where necessary, by sodded waterways, contour cultivation, terracing, or contour stripcropping.
10. Protection from overgrazing.

More specifically, the improved practices, under which yields in columns B were estimated, are as follows:

Cotton.—Apply 72 pounds of N, 48 pounds of P_2O_5, and 48 pounds of K_2O per acre, and minor elements as needed. Apply lime according to soil tests or local recommendations. Plant between April 10 and May 10, as weather permits. Hill-dropped cotton requires 22 pounds of delinted seed per acre. Drilled cotton requires 20 to 30 pounds of delinted seed per acre. For seed not delinted, increase the rate by 10 to 15 pounds per acre. Plant seed that is properly treated with a recommended fungicide. Follow current recommendations for insect control.

Corn.—Apply at planting time about 40 pounds of N, 30 pounds of P_2O_5, and 32 pounds of K_2O. Optimum rates of P_2O_5 and K_2O vary with soil type and past history of fertilization. Sidedress with 60 to 90 pounds of N per acre. Apply lime according to soil tests or local recommendations. Plant between April 15 and May 10 on a well-prepared, settled seedbed. Space plants 15 inches apart in rows 42 inches apart, or 16 inches apart in rows 40 inches apart.

Soybeans.—Apply 30 pounds of P_2O_5 and 60 pounds of K_2O per acre at planting time. Apply lime according to soil tests or local recommendations. Plant between May 1 and June 1. Plant 10 to 12 viable seeds per foot in the row. In rows 36 to 40 inches apart, this will require 40 to 50 pounds of seed per acre.

Sweetpotatoes.—Apply 40 pounds of N, 80 pounds of P_2O_5, and 80 pounds of K_2O per acre at planting time. Apply lime according to soil tests or local recommendations. Plant between April 20 and May 15. Plant slips 12 inches apart in rows 42 inches apart.

Oats.—Apply 20 pounds of P_2O_5 and 20 pounds of K_2O per acre at planting time. Topdress with 60 pounds of N about March 1. Apply lime according to soil tests or local recommendations. Plant between September 15 and October 15 at the rate of 3 bushels per acre.

Managing Woodland [2]

The production of timber was at one time the leading industry of Calhoun County, and it still is an important part of the county's economy. Sawmills and planing mills are fairly numerous. The forests produce chiefly hardwoods, but also some softwoods and pulpwood. Of the total land area, 56.6 percent was classified as commercial forest land by the Forest Service (*12*)[3] in 1957.

In this subsection, soil characteristics and other factors that affect woodland are discussed, the soils are placed in woodland suitability groups, and the management of soils in each group is suggested. Table 3 contains stand and yield data on fully stocked, unmanaged, second-growth loblolly and shortleaf pines, and table 4 summarizes the information given in the woodland suitability groups.

Woodland suitability groupings

Special interpretations of soil-woodland relationships have been made to assist in management of woodland. The type of soil, the degree or hazard of erosion, the slope, and other factors have a direct relationship to woodland species, productivity, and management. To simplify the presentation of the information, soils similar in productivity, drainage, location, management requirements, and other features have been placed in 10 woodland suitability groups. The following factors were the basis for these groupings.

Site index is a rating of the potential soil productivity based on the average height of free-growing, dominant and codominant trees. Height is used because it is the best known indicator of productivity. For loblolly and shortleaf pines, sweetgum, cherrybark oak, and yellow-poplar, the site index is based on the height at 50 years of age. For cottonwood, the site index is based on the height at 30 years of age.

Yields from stands that are unmanaged, though fully stocked, are not considered a true measure of productivity. They do, however, show how the productivity of one site is related to another. Table 3 (p. 29) shows the growth and yield of unmanaged, second-growth stands of loblolly and shortleaf pines. Yield figures in this table are cumulative. Similar data for hardwoods are not available, but as for pines, the higher the site index, the higher the potential yield.

Species priority is a listing of the recommended commercial tree species that grow on the soils in each woodland suitability group and should be planted or favored in existing stands. In some woodland suitability groups, species are listed by minor sites and position, such as along drains and drainheads. Many other commercial species may grow on the soils of each group, but only important species are listed.

Plant competition is the invasion by unwanted trees, shrubs, and vines when openings are made in the canopy. Woodland managers often refer to plant competition as "brush encroachment." Plant competition is directly affected by the length of time a soil has been protected from fire and destructive grazing, and by the degree of erosion.

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[2] R. L. GRIGSBY, woodland conservationist, Soil Conservation Service, prepared this section.

[3] Italic numbers in parentheses refer to Literature Cited, p. 61.

In establishing a base for rating plant competition, at least 5 years without fire and destructive grazing has been assumed. Competition is *slight* if there is no special problem; *moderate* if it delays but does not ordinarily prevent establishment of adequate stands; *severe* if natural regeneration cannot be relied upon without special site management.

Seedling mortality is the expected mortality of naturally occurring or planted tree seedlings, as influenced by the kinds of soil or topography, when plant competition is assumed not to be a limiting factor. Seedling mortality is *slight* if expected mortality is 0 to 25 percent; *moderate* if between 25 and 50 percent; *severe* if more than 50 percent.

Erosion hazard is the erosion potential of a soil when the area is managed according to currently acceptable standards. Erosion potential is affected by soil texture, past erosion, and the steepness of slope.

The hazard is *slight* if there is no special problem; *moderate* if some attention must be given to prevent unnecessary erosion; *severe* if intensive treatment, special equipment, and special methods of operation are required.

Windthrow hazard, or wind firmness, is affected by the kinds of soils and by erosion, stand density, and soil moisture. The hazard is *slight* if there is no special problem; *moderate* if some trees are expected to blow down when the soil is excessively wet and the wind is high; *severe* if many trees are expected to blow down when the soil is wet and the wind is moderate or high.

Equipment limitations (trafficability) are the features of soil and topography that limit the use of regular tree-harvesting equipment. Limitations are *slight* if equipment use is not restricted in kind or time of year; *moderate* if equipment use is moderately restricted in kind or in operations by one or more factors such as slope, stones or obstructions, seasonal wetness, injury to tree roots, and soil structure and stability or other soil characteristics, and if seasonal restrictions are no more than 3 months a year; *severe* if special equipment is needed, and its use is severely restricted by one or more of the factors listed for *moderate* and, in addition, by safety in operations, and if seasonal restrictions are more than 3 months a year.

TABLE 3.—*Stand and yield data on fully stocked, unmanaged, second-growth loblolly pine and short leaf pine* [1]

[Absence of figures indicates that timber of specified size is not generally used commercially]

LOBLOLLY PINE					SHORTLEAF PINE				
Site Index	Age	Total merchantable volume per acre		Average diameter at breast height	Site index	Age	Total merchantable volume per acre		Average diameter at breast height
	Years	*Cords*	*Bd. ft. (Doyle)*	*Inches*		*Years*	*Cords*	*Bd. ft. (Doyle)*	*Inches*
70	20	17		5. 4	60	20	12		[2]
	30	31	1, 000	7. 8		30	32		5. 7
	40	42	3, 500	9. 6		40	46	1, 550	7. 3
	50	50	6, 500	10. 9		50	54	4, 350	8. 4
	60	55	10, 000	12. 1		60	60	7, 600	9. 7
	70	59	12, 500	13. 0		70	65	10, 250	10. 6
	80	62	15, 000	13. 8		80	68	12, 700	11. 4
80	20	22		6. 2	70	20	18		4. 5
	30	38	2, 000	8. 7		30	41	750	6. 6
	40	51	6, 000	10. 7		40	56	4, 000	8. 4
	50	60	11, 500	12. 2		50	66	8, 650	9. 8
	60	66	16, 000	13. 6		60	73	12, 600	11. 0
	70	70	19, 500	14. 6		70	79	16, 250	12. 0
	80	73	22, 000	15. 5		80	83	19, 400	12. 8
90	20	27		6. 9	80	20	25		5. 2
	30	46	4, 000	9. 6		30	48	1, 950	7. 5
	40	61	10, 000	11. 7		40	65	7, 650	9. 5
	50	71	16, 500	13. 6		50	77	13, 550	11. 1
	60	78	22, 000	15. 0		60	85	18, 850	12. 3
	70	82	26, 000	16. 2		70	92	23, 450	13. 3
	80	85	29, 000	17. 2		80	97	27, 550	14. 2
100	20	32	500	7. 4	90	20	30		6. 1
	30	53	6, 000	10. 4		30	54	4, 550	8. 8
	40	71	14, 500	12. 8		40	73	12, 600	10. 6
	50	84	23, 000	14. 7		50	87	20, 450	12. 6
	60	92	29, 500	16. 2		60	98	27, 400	14. 0
	70	96	33, 000	17. 6		70	105	32, 850	15. 2
	80	100	35, 500	18. 6		80	112	37, 400	16. 2

[1] These figures are compiled from United States Department of Agriculture Miscellaneous Publication No. 50 (*9*).

[2] Data not available.

TABLE 4.—*Woodland suitability groups, site*

Woodland suitability groups	Potential soil productivity		Species priority
	Tree	Site index [1]	
Group 1: Medium-textured, moderately to slowly permeable, moderately well drained soils with a fragipan (DuB2, DuB3, DuC2, DuC3, DuD2, DuD3, FrB2, FrB3, FrC3, PrB2, PrB3, PrC2, PrC3, PrD2, PrD3).	Loblolly pine Shortleaf pine	[2] 76 [2] 61	Loblolly pine in most areas; yellow-poplar, sweetgum, white oak, and Shumard oak around drains and drainheads.
Group 2: Medium- to fine-textured, moderately well drained to well drained soils with variable permeability (CrD, CrD3, CrE, CrE3).	Loblolly pine Shortleaf pine	[3] 78 [3] 63	Loblolly and shortleaf pines in most areas; yellow-poplar, southern red oak, white oak, sweetgum, Shumard oak, and blackgum on lower slopes and around drains and drainheads.
Group 3: Medium-textured, moderately to slowly permeable, somewhat poorly drained soils with a fragipan (BuB, BuB2, BuC, HaA, HaB, HaB2).	Loblolly pine Shortleaf pine	[3] 78 ([4])	Loblolly and shortleaf pines in most areas; sweetgum, white oak, water oak, cherrybark oak, and Shumard oak in noneroded areas and around drains and drainheads.
Group 4: Fine- to medium-textured, slowly and moderately permeable, poorly and somewhat poorly drained soils (FkB, FkB2, FkC2, Ma, WcB2, WcB3, WcC2, WcC3, WcD3).	Loblolly pine Shortleaf pine	[3] 85 ([4])	Loblolly and shortleaf pines in most areas; sweetgum, Shumard oak, cherrybark oak, water oak, white oak, and willow oak on lower slopes and around drains and drainheads.
Group 5: Medium-textured, moderately to slowly permeable, poorly drained soils with a fragipan or clay layer (Al, Hn, Tc).	Sweetgum	70–79	Loblolly pine and sweetgum
Group 6: Medium- to coarse-textured, well-drained to excessively drained soils with variable permeability (OeF).	Loblolly pine Shortleaf pine	([5]) ([5])	Loblolly pine in most areas; southern red oak, sweetgum, white oak, and blackgum on lower slopes and around drains and drainheads.
Group 7: Gullied land. Soil materials and permeability are variable (Gu).	Loblolly pine	([5])	Loblolly pine
Group 8: Medium-textured, slowly to moderately permeable, somewhat poorly drained alluvial soils (Fa, Fb).	Cherrybark oak Cottonwood Sweetgum Water oak Willow oak	95–104 90–114 95–104 90–104 90–104	Green ash, white ash, eastern cottonwood, sweetgum, swamp chestnut oak, water oak, white oak, cherrybark oak, willow oak, Nuttall oak, overcup oak, red maple, and American sycamore.
Group 9: Fine- to coarse-textured, slowly to moderately permeable, poorly drained to well-drained soils (Ca, Ch, Mx, Ur, Wa).	Cherrybark oak Cottonwood Sweetgum Water oak Willow oak	80–104 90–109 90–109 80–99 80–109	Cherrybark oak, sweetgum, water oak, willow oak, ash, and overcup oak.
Group 10: Medium-textured, slowly to moderately permeable, moderately well drained alluvial soils (Co, Cm).	Sweetgum Cottonwood Cherrybark oak Water oak Willow oak	100–109 110–124 105–119 100–109 90–109	Eastern cottonwood, southern magnolia, cherrybark oak, Shumard oak, swamp chestnut oak, water oak, white oak, willow oak, sweetgum, American sycamore, blackgum, and yellow-poplar.

[1] Site index for all species, except cottonwood, based on height at 50 years of age (*3, 6*); site index for cottonwood based on height at 30 years of age (*2*); site index for pine given for midslopes.

[2] Analyzed data.

WOODLAND SUITABILITY GROUP 1

This group consists of moderately well drained soils of uplands and terraces. Their slopes range from 2 to 12 percent. The soils are—

Dulac silt loam, 2 to 5 percent slopes, eroded.
Dulac silt loam, 2 to 5 percent slopes, severely eroded.
Dulac silt loam, 5 to 8 percent slopes, eroded.
Dulac silt loam, 5 to 8 percent slopes, severely eroded.
Dulac silt loam, 8 to 12 percent slopes, eroded.
Dulac silt loam, 8 to 12 percent slopes, severely eroded.
Freeland silt loam, 2 to 5 percent slopes, eroded.
Freeland silt loam, 2 to 5 percent slopes, severely eroded.
Freeland silt loam, 5 to 8 percent slopes, severely eroded.
Providence silt loam, 2 to 5 percent slopes, eroded.
Providence silt loam, 2 to 5 percent slopes, severely eroded.
Providence silt loam, 5 to 8 percent slopes, eroded.
Providence silt loam, 5 to 8 percent slopes, severely eroded.
Providence silt loam, 8 to 12 percent slopes, eroded.
Providence silt loam, 8 to 12 percent slopes, severely eroded.

These soils have a silt loam surface layer and a silt loam or silty clay loam subsoil over a fragipan. They have moderately good internal drainage and moderate available moisture capacity. Permeability is moderate in the upper subsoil, but slow in the fragipan.

indexes, and other factors affecting management

Erosion		Plant competition	Seedling mortality	Windthrow hazard	Equipment limitations
Present condition	Hazard				
Eroded and severely eroded.	Slight to moderate	Slight to moderate	Slight to moderate	Slight to moderate	Slight.
Noneroded and severely eroded.	Moderate to severe	Moderate to slight	Slight to moderate	Slight	Moderate.
Noneroded and eroded.	Slight	Severe to moderate	Slight	Slight to moderate	Slight.
Noneroded to severely eroded.	Slight	Slight to moderate	Slight	Slight	Slight to moderate.
Noneroded	Slight	Severe	Slight	Moderate to severe	Moderate to severe.
Slightly eroded	Moderate	Slight to moderate	Slight to moderate	Slight	Moderate to severe.
Severely gullied	Severe	Slight	Severe	Slight to moderate	Moderate to severe.
Noneroded	Slight	Slight to moderate	Slight	Slight	Moderate.
Noneroded	Slight	Slight	Moderate	Moderate	Moderate to severe.
Noneroded	Slight	Slight to moderate	Slight	Slight	Moderate.

[3] Averaged and projected from limited data.
[4] No field plots of shortleaf pine available.
[5] Sufficient data not available.

Most areas of these soils are suited to pines, and the preferred species is loblolly. Many areas, however, include drains and drainheads that are too small to be delineated on the soil map, and within these areas many kinds of good hardwoods grow in association with loblolly and shortleaf pines. This combination is good for timber production as well as for wildlife habitats.

The Freeland silt loams, except where severely eroded, produce good hardwoods. Areas of these soils already in hardwoods should be managed for their production. Attempts to convert these sites to pines usually fail, unless two or more release cuttings are made at a high cost per acre. Severely eroded areas of Freeland silt loam, however, are best suited to pines, and loblolly is preferred for planting.

On this group of soils, the site index on middle slopes is 76 feet for loblolly pine and 61 feet for shortleaf pine. The site index may be 2 to 5 feet less on ridgetops and 3 to 6 feet more on lower slopes.

Plant competition is slight to moderate. Generally, pines regenerate naturally by the first year after logging. If pine seedlings are not established by the second year,

site preparation and direct seeding or planting often are required.

Seedling mortality is moderate on the ridges and upper slopes and slight on middle and lower slopes.

Erosion is a moderate hazard on unprotected slopes in excess of 8 percent, and care should be taken in locating logging roads and skid trails.

Windthrow is generally slight. It causes no management problems, except in some severely eroded areas where the root zone is restricted by the shallowness of the soil above the fragipan.

WOODLAND SUITABILITY GROUP 2

This woodland suitability group consists of mapping units of undifferentiated soils that do not occur in a regular pattern. They are on strongly sloping to very steeply sloping, dissected uplands. The soils in each mapping unit vary in percentage and distribution. The soils are—

Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes.
Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes, severely eroded.
Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes.
Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes, severely eroded.

The Dulac soil has a silt loam surface layer and a silty clay loam subsoil. The Cuthbert and Ruston soils have a sandy loam surface layer and a subsoil of clay, sandy clay loam, or sandy loam. These soils are moderately well drained to well drained, and they vary in infiltration and permeability.

Most areas of these soils are suited to pines, but they support pure stands of hardwoods or pines, depending on their position, degree of erosion, and steepness of slope. Soils on slopes less than 17 percent are mainly sites for pines. The lower parts of slopes that are greater than 17 percent and not severely eroded support good hardwoods. Soils around drains and drainheads and on north- and northeast-facing slopes produce fair to good hardwoods and have the largest number of trees. These sites are excellent habitats for deer, small game, birds, and other wildlife.

On the lower slopes and around drains and drainheads, the main species are yellow-poplar, white oak, Shumard oak, southern red oak, sweetgum, and blackgum.

For this group of soils, the site index on middle slopes is 78 feet for loblolly pine and 63 feet for shortleaf pine. The site index may be 4 to 8 feet less on ridgetops and upper slopes, and 6 to 10 feet more on lower slopes. These site indexes are from limited data.

Plant competition ranges from slight on the ridges and upper slopes to moderate on the middle and lower slopes. On lower slopes in excess of 17 percent, mixed stands of hardwoods and pines grow if they are managed and protected. If pure pine stands are desired on these lower slopes, intensive site preparation and hardwood control are necessary, as shown in figures 8 and 9.

Erosion is a severe hazard on severely eroded, steep slopes. Skid trails, roads, and loading places should be located carefully to minimize this hazard. If possible, logs should be skidded up the hill and loaded on the ridge. This method produces fanlike skid trails and does not allow runoff water to concentrate and start gully erosion.

Seedling mortality is slight to moderate. In years of low rainfall, losses of planted stock are much greater than normal and additional plantings are necessary.

Figure 8.—**Releasing young pines by removing cull hardwoods on soils in woodland suitability group 2. Girdling and poison are used.**

Figure 9.—**Three-year-old shortleaf pines on soils in woodland suitability group 2.**

Windthrow is generally a slight hazard. Equipment limitations are moderate because of the steep slopes and clayey soil in some eroded areas.

WOODLAND SUITABILITY GROUP 3

This group consists of somewhat poorly drained soils of uplands and terraces. Their slopes range from 0 to 8 percent. The soils are—

Bude silt loam, 2 to 5 percent slopes.
Bude silt loam, 2 to 5 percent slopes, eroded.
Bude silt loam, 5 to 8 percent slopes.
Hatchie silt loam, 0 to 2 percent slopes.
Hatchie silt loam, 2 to 5 percent slopes.
Hatchie silt loam, 2 to 5 percent slopes, eroded.

These soils have a silt loam surface layer and a silt loam or silty clay loam subsoil over a fragipan. Their available moisture capacity is moderate to low. They are moderately permeable in the upper subsoil and slowly permeable in the fragipan.

Although most areas of these soils are suited to pines, Hatchie silt loam produces good hardwoods. Erosion

and past use determine the species priority on soils of this group. On noneroded terraces, the preferred species are sweetgum, white oak, cherrybark oak, Shumard oak, and water oak. Loblolly and shortleaf pines are preferred on eroded soils. Soils around drains and drainheads produce a variety of species and are good for wildlife habitats.

On middle slopes these soils have a site index of 78 feet for loblolly pine. On ridges and upper slopes, the site index may be 1 to 5 feet less, and on lower slopes, 2 to 5 feet more. Shortleaf pine also grows on these slopes, but not enough plots were found to attempt a rating. In areas where hardwoods grow, the site index is 80 to 89 feet for cherrybark oak, water oak, willow oak, and sweetgum.

Plant competition is sometimes severe for pine seedlings on noneroded soils and moderate on eroded uplands, except in areas that have been in crops or pasture. Intensive site preparation is usually required for pine regeneration on noneroded soils. On eroded soils cutting and logging practices for 1 year may be sufficient to establish pine seedlings. If seedlings are not established, some further site preparation is usually required to insure a full stand of pine.

The erosion hazard is generally slight because of the gentle slopes.

Because of the shallow depth to the fragipan, windthrow is a slight to moderate hazard.

Equipment limitations are slight, but the use of equipment may be delayed for a few days following heavy rains.

WOODLAND SUITABILITY GROUP 4

This group consists of somewhat poorly drained to poorly drained soils of uplands. Their slopes range from 0 to 12 percent. The soils are—

Falkner silt loam, 2 to 5 percent slopes.
Falkner silt loam, 2 to 5 percent slopes, eroded.
Falkner silt loam, 5 to 8 percent slopes, eroded.
Mayhew silty clay loam.
Wilcox silty clay loam, 2 to 5 percent slopes, eroded.
Wilcox silty clay loam, 2 to 5 percent slopes, severely eroded.
Wilcox silty clay loam, 5 to 8 percent slopes, eroded.
Wilcox silty clay loam, 5 to 8 percent slopes, severely eroded.
Wilcox silty clay loam, 8 to 12 percent slopes, severely eroded.

These soils have a silt loam or silty clay loam surface layer and a silty clay loam to clay subsoil. The available moisture capacity is low to moderate, and permeability is slow to moderate.

Most areas of these soils are suited to pines, but noneroded areas on lower slopes and along drains and drainheads support fair to good sweetgum, Shumard oak, water oak, white oak, willow oak, and other hardwoods. In these areas the stands should be managed to favor these species. If pines are desired on these sites, intensive brush control is required. As in other woodland groups, these minor sites are good for wildlife habitats.

On the soils of this group, the site index for loblolly pine is about 85 feet. Shortleaf pine also grows on these soils, but field data were not sufficient for rating at this time.

Plant competition ranges from moderate in noneroded areas to slight in eroded areas. Underplanted pine seedlings usually develop with only one release along ridges and upper slopes.

Equipment limitations are slight, except on Mayhew silty clay loam and on a few areas of Falkner silt loam that have slopes of 0 to 2 percent. On these soils use of equipment may be delayed by wetness for 3 or 4 months during winter and spring.

Seedling mortality is slight. No special diseases, insects, or pests are associated with these soils.

Windthrow is not serious. Generally, individual trees remain standing when released on all sides, except during abnormally high winds when the soils are waterlogged.

WOODLAND SUITABILITY GROUP 5

This group consists of poorly drained soils of uplands and terraces. Their slopes range from 0 to 2 percent. The soils are—

Almo silt loam.
Henry silt loam.
Tickfaw silt loam.

These soils have a silt loam surface layer and a silt loam or silty clay loam subsoil over a fragipan or clay layer. The available moisture capacity is moderate to low. Permeability is moderate in the upper subsoil and slow in the fragipan or clay.

The species priority varies with topographic position. Dieback occurs among sweetgum. These trees do not always grow to maturity, probably because of the limited moisture supply above the fragipan. Although individual large trees grow throughout areas of these soils, maximum wood production can be most likely achieved in a pulpwood rotation. The preferred species are loblolly pine and sweetgum. A site index of about 70 to 79 feet can be expected on these soils for cherrybark oak, water oak, and willow oak, as well as for sweetgum.

Because of the shallowness to the fragipan, the hazard of windthrow is moderate to severe.

Some areas remain ponded during the wet seasons of the year. Consequently, equipment limitations are moderate to severe.

Because of the level to nearly level topography, erosion is not a problem.

WOODLAND SUITABILITY GROUP 6

Orangeburg and Eustis soils, 17 to 35 percent slopes, are the only soils in this group.

These soils are mapped as an undifferentiated unit. They occur in an irregular pattern on very steeply sloping, dissected uplands. Proportions and distribution of the soils are variable from place to place.

These soils have a sandy loam to loamy sand surface layer and a sandy clay loam to loamy sand subsoil. They are deep and well drained or excessively drained, and their available moisture capacity is moderate to low. They have variable infiltration and permeability.

These soils are suited to pines, but they support pure stands of both hardwoods and pines. The priority of species varies with position. All slopes not in excess of 17 percent are suited to pines and loblolly is preferred. Where slopes are in excess of 17 percent, the ridges and the upper and middle slopes are pine sites, and the lower slopes and areas around drains and drainheads produce hardwoods.

Sufficient data for site indexes are not available.

Plant competition ranges from slight on the ridges and upper slopes to moderate on the middle slopes. For re-

generation of pines on these sites, 2 years of good, well-timed logging practices are usually sufficient. If pine is not established by the third year, site preparation, followed by artificial reforestation, is usually required to insure a full stand.

The erosion hazard is moderate if good logging practices are followed. Haul roads and loading areas should be properly located. On steep slopes logs should be skidded up hill to keep soil disturbance at a minimum and reduce the chances of gully erosion.

Individual trees remain standing when released on all sides except in abnormally high winds.

Equipment limitations are moderate to severe because of the slopes and the loose sandy soil in some areas.

WOODLAND SUITABILITY GROUP 7

Gullied land is the only mapping unit in this group. This land type is so severely eroded that most of it is an intricate pattern of gullies. The soil profiles have been destroyed except in small areas between gullies, and the soil materials range from silt to sand to clay. The available moisture capacity is low, and infiltration and permeability are variable. Slopes range from 2 to 35 percent.

This land type is best suited to loblolly pine. Plantations established in the late 1930's indicate that this land type produces good to excellent pine for commercial use. Since 1948 hundreds of acres have been planted to loblolly pine with good results. The site index varies with the soil material and topographic position; therefore, ratings vary widely.

Seedling mortality is severe because of the erosion. A fully stocked, planted stand is difficult to obtain in severely gullied areas.

The hazard of further erosion is severe, and extreme care should be taken in locating roads and in skidding logs.

In severely gullied areas, the use of regular logging equipment is limited. On steep slopes special skid pans should be used to prevent further erosion.

The windthrow hazard is generally slight, except where a fragipan restricts the root zone to the upper subsoil.

WOODLAND SUITABILITY GROUP 8

This group consists of silty alluvial soils formed in materials washed down from loessal hills. These soils are acid and are somewhat poorly drained. They are—

Falaya silt loam.
Falaya silt loam, local alluvium.

The surface layer is silt loam and the subsoil ranges from silt loam to silty clay loam. Permeability is moderate to slow. The available moisture capacity is high.

Because these soils are best suited to hardwoods, open fields that are planted to loblolly pine usually revert to hardwoods after the first planting of pines has been harvested. Hardwoods that are suited to these soils are white ash, green ash, eastern cottonwood, red maple, cherrybark oak, Nuttall oak, overcup oak, swamp chestnut oak, water oak, white oak, willow oak, sweetgum, and American sycamore.

Plant competition does not prevent establishment of desirable species, but it often delays natural regeneration and slows initial growth.

Seedling mortality is generally only slight where light is adequate and flooding is not too severe.

Windthrow is not a serious hazard. Individual trees can be expected to remain standing when released on all sides.

The use of equipment may be restricted by flooding for 1 to 3 months.

WOODLAND SUITABILITY GROUP 9

This group consists of poorly drained to well-drained alluvial soils and Mixed alluvial land on slopes of 0 to 3 percent. The mapping units are—

Chastain silt loam.
Chastain silty clay loam.
Mixed alluvial land.
Urbo silty clay loam.
Waverly silt loam.

The surface layer and subsoil of Mixed alluvial land ranges from silt loam to sand. The other mapping units have a subsoil of silt loam, silty clay loam, or clay. The available moisture capacity is low to moderate, and permeability is slow to moderate.

These soils are best suited to hardwoods, and the sites are good to excellent. The preferred species are cherrybark oak, sweetgum, water oak, willow oak, ash, and overcup oak. Loblolly pine has been observed in one old field, and there are some scattered pines. Where pines are growing, the sites are excellent for them, but as in woodland suitability group 8, it is not practical to manage these soils intensively for pines.

Plant competition is slight, seedling mortality is moderate, and the hazard of erosion is slight. Windthrow is a moderate hazard, and equipment limitations are moderate to severe.

WOODLAND SUITABILITY GROUP 10

This group consists of moderately well drained, acid alluvial soils that formed in loessal materials. The soils are—

Collins silt loam.
Collins silt loam, local alluvium.

These soils have a silt loam surface layer and a silt loam or silty clay loam subsoil.

They are naturally better suited to hardwoods than to pines. Open fields that are planted to loblolly pine generally revert to hardwoods after the first planting of pines has been harvested. Hardwoods that are suited to these soils are eastern cottonwood, southern magnolia, cherrybark oak, Shumard oak, swamp chestnut oak, water oak, white oak, willow oak, sweetgum, American sycamore, blackgum, and yellow-poplar.

Plant competition does not prevent establishment of desirable species, but it often delays natural regeneration and slows initial growth.

Seedling mortality is generally only slight where light is adequate and flooding is not too severe.

Windthrow is not a serious hazard. Individual trees can be expected to remain standing when released on all sides.

The use of equipment may be limited by flooding for 1 to 3 months a year.

Use of Soils for Wildlife and Fish [4]

The different kinds of birds and animals are related to the soils in an indirect way. They require certain plant associations for their food and cover, and these plant associations, in turn, require a certain soil type or a group of soils. Likewise, the quality and fertility of natural and impounded water are determined by the soils in the lakes or streams of an area and in the watershed above it. The purpose of this section is to interpret the soils and group them according to their suitability for wildlife.

The type of vegetation and the land use determine the species and population of wildlife in any area. Some species are adapted to woodland, some to wet land, and some to farmland, but most need a combination of conditions. Also, the quality, quantity, and management of water resources determine the kind and number of fish. All the soils of Calhoun County are suited to one or more species of wildlife.

Bobwhite quail, doves, rabbits, and other farm game are adapted to all soil associations that have open land and some form of agriculture. They are more commonly associated with row-crop farming than with livestock farming. Squirrels, deer, turkeys, and other forest game thrive in woodland where part of the stand consists of hardwoods.

Requirements of wildlife and fish

Bobwhite quail.—These birds need open and partly open land. Food should be available near sheltering vegetation that protects them from predators and adverse weather. Such conditions exist primarily in areas of row-crop farming. Choice foods of these birds are acorns and beechnuts; blackberries, black cherries, and mulberries; corn, cowpeas, soybeans, and partridge peas; browntop millet, ragweed, tickclover (beggarticks), and lespedeza (bicolor, Kobe, Korean, and common); and the seeds of dogwood, sweetgum, and pine. They also eat insects in the warm seasons.

Deer.—Deer require woodland areas of 500 acres or more with water. They eat a variety of plant foods, including many native forage plants. Some of their choice foods are acorns; corn, cowpeas, oats, and wheat; greenbriers and honeysuckle; and rescuegrass and clover.

Doves.—Doves need open fields without thick ground cover for feeding, and they need daily access to water. Some of their choice foods are browntop millet, corn, croton, grain sorghum, and sunflower seeds; panicgrass (several species) and ragweed; pokeberries; and the seeds of sweetgum and pine.

Ducks.—Areas of water or areas that are flooded in winter are necessary for ducks. Some choice foods are acorns and beechnuts; browntop millet, corn, and Japanese millet; and smartweed.

Rabbits.—Adequate plant cover is the primary requirement for rabbits. Good cover plants are blackberry briers, multiflora rose, sericea lespedeza, or any shrubs, annual weeds or low-growing brush. Their foods are primarily grass, clover, grain, and bark.

Squirrels.—A few acres or more of woodland are necessary for squirrels, and hardwoods in the stand are required. The choice foods are acorns, beechnuts, hickory nuts, and pecans; corn; black cherries, and mulberries; and the seeds of blackgum, dogwood, maple, and pine.

Nongame birds.—Many species of nongame birds occur in all kinds of habitats. Their foods and other requirements vary between species. Some eat nothing but insects; a few combine insects and fruits; and several eat insects, fruits, and nuts, including acorns.

Fish.—The principal game fish in ponds and streams are bass, bluegills and other sunfish, and channel catfish. Bluegills and most of the other sunfish eat aquatic worms, insects, and insect larvae. Bass and catfish eat small fish, frogs, crayfish, and other forms of aquatic life. The amount of food for fish and the poundage of usable fish that ponds produce are related to the fertility of the watershed and the soil in the pond. Most ponds in this county should be fertilized and limed to produce good crops of fish.

Wildlife suitability groups of soils

The suitability and management of soils and plants for wildlife in Calhoun County are discussed under three general soil groupings. The soils in each group produce similar plant communities, maintain similar water quality and, therefore, support similar species of wildlife and fish.

WILDLIFE SUITABILITY GROUP 1

This group consists of soils of the Wilcox-Falkner-Tickfaw association, which is made up of nearly level flats and moderately sloping hills known as the Thin Loess Flatwoods. Most of the soils are somewhat poorly drained and poorly drained, and some are moderately well drained.

About half of this association is in trees, and the rest is in pasture and in row crops, mainly cotton and sweetpotatoes.

This soil association is generally suited to good populations of bobwhite quail and rabbits. The small farms that are typical of this association provide the necessary habitats. The native food plants for quail grow well on these soils, and so do the cultivated foods, such as cowpeas, soybeans, millet, and bicolor lespedeza. Native cover plants are abundant if allowed to grow around field edges, fence rows, and ditchbanks. The abundance of game is determined by the extent to which native food and cover plants are encouraged to grow where they are needed.

Only a few bobwhite quail and rabbits can live in pastures unless sufficient cover is allowed to grow. Cover for rabbits can be provided by briers, shrubs, and annual weeds along pasture edges and in small areas in the pastures.

Doves are limited because of the kinds of crops grown in this soil association. These soils, however, produce good crops of browntop millet or Texas millet for dove fields.

Most of the wooded area is in hardwoods, which support good populations of squirrels. Woodland management that favors hardwoods is necessary for these animals.

Natural duck feeding areas are limited. Sites for planted duck fields are available in the level areas, however, and millet grows well. Sites for ponds and lakes

[4] EDWARD G. SULLIVAN, biologist, Soil Conservation Service, prepared this section.

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are limited to the sloping areas. The ponds should be fertilized for high fish production.

WILDLIFE SUITABILITY GROUP 2

The soils of this group are in the Falaya-Waverly-Collins and the Falaya-Chastain-Urbo associations, all in the bottoms along the Yalobusha and Skuna Rivers and along several creeks throughout the county. They are silty soils that have developed in sediments left by floods.

Nearly all of this land has been cleared and is used for row crops, hay, and pasture. The main crops are cotton, corn, soybeans, and hay.

Bobwhite quail are present, but the intensive agriculture limits their number except where native or planted food and cover are provided. Nearly all of the native food and cover plants that attract quail are suited to these soils, and quail can feed on waste corn, soybeans, sorghum, and other planted grains if cover plants are encouraged to grow around the fields.

The number of rabbits in these areas also depends on cover, which can be provided by briers, weeds, and brush along field edges, borders, and ditches.

These areas are choice habitats for doves. Their food is provided by waste corn and by weed and grass seeds in and around fields. If extra food is needed, browntop and Texas millet are well suited.

Because the acreage of woodland is small, forest game is not important in these areas. These are hardwood soils, however, and woodland wildlife does well where tracts of timber are present.

Many sites in these soil associations are suitable for duck feeding fields, and water for flooding them is generally available from nearby streams. Browntop and Japanese millet grow well on these soils. Manmade duck fields should prove successful in the southwestern part of the county where the Grenada Reservoir attracts many ducks.

Because of their topography, these areas are not very suitable for fish ponds, but these soils will hold water and produce food for fish where pond sites can be found. Most ponds, if constructed, would be a dug type or levee type.

WILDLIFE SUITABILITY GROUP 3

This group consists of soils in the Cuthbert-Dulac-Ruston and Orangeburg-Eustis associations. These are areas of steep to very steep hills with long, narrow ridgetops and narrow stream bottoms. They are rough, broken, and mostly wooded. Large tracts of forest owned by timber companies are common. The soils are well suited to pines on the ridges and slopes and to hardwoods in the bottoms and around draws and springheads. Most of the farms are small and have open cropland on the ridgetops and narrow bottoms. Corn and cotton are the principal crops.

Quail, rabbits, and other farm game are usually plentiful around the scattered farms, because the small, irregularly located fields, bordered by brushy cover, make excellent habitats. Native foods for quail and rabbits are abundant, and any of the agricultural food and cover plants are suited to these soils. The larger, unbroken forest areas, however, are not good quail habitats.

Doves generally stay in open fields and forage on waste corn and on weed and grass seed. These soils will produce browntop millet where this food is desired for doves.

Forest game is well adapted to these areas. There are enough hardwoods to support large squirrel populations and enough good range for deer, and the larger uninhabited forests are suitable for wild turkeys. Hardwoods are the most suitable trees for wildlife and should be favored wherever possible.

Because of the steep topogragphy, this area has severe limitations for duck fields. Duck management is possible, however, in manmade lakes and ponds that are equipped with a drawdown gate so that the water can be lowered and duck food planted around the lake margins. Japanese millet is well suited for such projects in these areas.

Many sites are suitable for fish ponds. Unfertilized ponds are likely to produce low yields of fish—probably not more than 75 to 100 pounds per acre yearly. If well fertilized, however, these ponds produce 300 to 400 pounds per acre yearly.

Engineering Uses of Soils

Some soil properties are of special interest to engineers, because these properties affect the construction and maintenance of roads, airports, pipelines, building foundations, water storage facilities, erosion control structures, drainage systems, and sewage disposal systems. The soil properties most important in engineering structures are permeability to water, shear strength, compaction characteristics, soil drainage, shrink-swell characteristics, grain size, plasticity, and reaction. The depth to the water table and to bedrock, and the topography also are important.

The information in this report is necessarily generalized and does not eliminate the need for on-site sampling and testing in preparation for locating, designing, and constructing specific engineering works. The report should be used primarily in planning more detailed field investigations to determine the condition of soil material in place at the proposed site for engineering work.

Information in this report can be used to:

(1) Make soil and land use studies that will aid in selecting and developing industrial, business, residential, and recreational sites.
(2) Make preliminary estimates of the engineering properties of soils that will help in planning agricultural drainage systems, farm ponds, irrigation systems, and diversion terraces.
(3) Make preliminary evaluations of soil and ground conditions that will aid in selecting highways, airport, pipeline, and cable locations and in planning detailed investigations at the selected locations.
(4) Locate probable sources of gravel and other construction materials.
(5) Correlate performance of engineering structures with soil mapping units and thus develop information that will be useful in designing and maintaining the structure.
(6) Determine the suitability of soil mapping units for cross-country movement of vehicles and construction equipment.

(7) Supplement the information obtained from other published maps, reports, and aerial photographs to make maps and reports that can be used readily by engineers.
(8) Develop other preliminary estimates for construction pertinent to the particular area.

In addition to this subsection, engineers may want to refer to the sections "How Soils Are Mapped and Classified," "Descriptions of Soils," and "Genesis, Classification, and Morphology of Soils." The latter contains a detailed representative profile description of each soil series.

Many of the terms in this report apply to agriculture, and their meanings may differ from similar terms used by engineers. Most of the terms are defined in the Glossary at the back of this report.

Most of the information in the section is given in tables 5 and 6. Table 5 contains brief descriptions of the soils and their estimated physical and chemical properties. The USDA texture and the engineering classifications of the soils are also given in this table. In table 6 the suitability of the soils as a source of construction materials is rated, and the soil features affecting the location and construction of highways, dikes or levees, farm ponds, drainage systems, irrigation systems, terraces, waterways, and septic tank fields are noted.

This report does not include test data on representative soils in Calhoun County. Test data on similar soils are published in reports of neighboring counties.

Engineering classification systems

Two systems of classifying soils are in general use among engineers. One system, approved by the American Association of State Highway Officials (*1*), is known as the AASHO system, and the other, used by the U.S. Army Corps of Engineers (*13*), is known as the Unified system. Both are used in this report and are explained in the following paragraphs (*5*).

AASHO classification system.—In this system, the soil materials are classified in seven principal groups. The groups range from A–1, consisting of gravelly soils of high bearing capacity, to A–7, consisting of clay soils having low strength when wet. Within each group, the relative engineering value of the soil material is indicated by a group index number. Group indexes range from 0 for the best material to 20 for the poorest. This group index number is not included in all engineering data.

Unified classification system.—This system is based on identification of soils according to their texture and plasticity and their performance as construction materials. Soil materials are identified as coarse grained (8 classes), fine grained (6 classes), or highly organic. The coarse-grained soils are gravels (G) and sands (S), the fine-grained are silts (M) and clays (C), and the highly organic are peat (Pt) and other organic soils.

Soil properties significant to engineering

Most of the soil problems in construction are caused by undesirable physical properties of the soil materials and by poor drainage. In this county, bedrock lies at such great depth that it presents no problem in engineering.

In table 5, brief descriptions and estimated physical and chemical properties of the soils are given. Each soil listed should be representative of the physical properties of other members of its series. The depths of the soil layers shown are the same as given in the typical profile description in the section "Genesis, Classification, and Morphology of Soils." The thickness of layers, however, varies in some soils because part or all of the upper layer has been lost through erosion.

In table 5 the figures in the column headed *Permeability* are based on soil structure without compaction. Permeability, or the rate at which water moves through the soil, is important in the construction of foundations, because the settlement of the structure depends on the rate at which moisture is squeezed from underneath the structure. For the same reason, permeability is important in constructing highway and railroad embankments and subgrades. Permeability must be considered in selecting material for ballast. It is also very important in determining the effectiveness of open drainage ditches, tile drains, irrigation systems, and disposal fields for sewage systems.

The shrink-swell potential rated in table 5 indicates how much the soil changes in volume when its moisture content changes. Shrink-swell potential is estimated primarily on the basis of the amount and type of clay present. In general, soils classified as CH and A–7 have a high shrink-swell potential. Soils that have a low shrink-swell potential are generally nonplastic or only slightly plastic, such as clean sands and gravels (single-grain structure) and soils having small amounts of nonplastic to slightly plastic fines.

In table 6 some interpretations of the engineering properties of the soils are given.

The suitability of the soils for topsoil is rated in table 6, because topsoil is needed to grow vegetation for erosion control on embankments, road shoulders, ditches, and cut slopes. Road shoulders that are intended to support only limited traffic preferably should be built of sandy loam.

There are no suitable sources of gravel in the county. The Ruston, Orangeburg, and Eustis soils are possible sources of sand.

Table 6 shows that many soils are ponded or have a high water table for part of each year. Roads across these soils must be constructed on embankment sections, or they must be provided with a good system of underdrains and surface drains. In lowlands on soils such as the Chastain, Collins, Falaya, Urbo, and Waverly and other areas that are flooded, roads should be constructed on a continuous embankment several feet above the level of frequent floods.

The Almo, Bude, Dulac, Freeland, Hatchie, Henry, and Providence soils have a compact layer (fragipan) a little below the surface. This layer impedes drainage through the soil, and water that collects above this layer forms a perched water table. The effects of this fragipan should be considered in roadway design.

In nearly level areas, side ditches of roads should extend below the fragipan. The pavement grade should be at least 4 feet above the top of the fragipan. In steeper areas, road cuts normally extend below the fragipan depth, but adequate underdrainage must be provided where the construction changes from a cut section to a fill section. This can be accomplished by excavating the fragipan and replacing it with more permeable material. A similar problem is caused by the very plastic subsoil layer in the Falkner, Wilcox, Mayhew, Tickfaw, Urbo, and Chastain soils. The same methods should be used to make sure that drainage is provided.

TABLE 5.—*Brief descriptions of the soils and*

Map symbol	Soil name	Description of soil and site	Depth from surface
			Inches
Al	Almo silt loam.	Poorly drained soil on stream terraces; about 1½ feet of silt loam or silty clay loam, over a fragipan about 2 feet thick and of the same texture, underlain by 1 foot of loam or clay loam; internal drainage impeded by the fragipan; seasonally high water table at the surface; slopes of 0 to 2 percent.	0–8 8–21 21–40 40–64
BuB	Bude silt loam, 2 to 5 percent slopes.	Somewhat poorly drained soils of uplands; about 1½ feet of silt loam or silty clay loam, over a fragipan of similar texture and about 2 feet thick, underlain by 1½ feet of heavy silty clay loam; internal drainage impeded by the fragipan; seasonally high water table at a depth of ½ foot.	0–7 7–16 16–35 35–60
BuB2	Bude silt loam, 2 to 5 percent slopes, eroded.		
BuC	Bude silt loam, 5 to 8 percent slopes.		
Ca	Chastain silt loam.	Poorly drained alluvial soil; about ½ foot of silt loam, over 1 foot of silty clay loam, underlain by 3½ feet or more of silty clay; seasonally high water table at the surface; subject to flooding; slopes of 0 to 2 percent.	0–8 8–17 17–60
Ch	Chastain silty clay loam.	Poorly drained alluvial soil; about 1½ feet of silty clay loam or 3½ feet of silty clay; seasonally high water table at the surface; subject to flooding; slopes of 0 to 2 percent.	0–7 7–17 17–32 32–50
Co	Collins silt loam.	Moderately well drained, alluvial soils; silt loam to a depth of 4 feet or more; seasonally high water table at a depth of 1 foot; subject to flooding; slopes of 0 to 2 percent.	0–3 3–8 8–19 19–48
Cm	Collins silt loam, local alluvium.		
CrD	Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes.	Cuthbert: Soils of uplands; ½ foot of fine sandy loam, over ⅔ foot of sandy clay, overlying 4 feet or more of sandy clay loam to sandy loam. Dulac: See Dulac soils in this table. Ruston: Soils of uplands; 1 foot of sandy loam, over 2 feet of sandy clay loam, underlain by 2 feet or more of sandy loam to loamy sand.	0–6 6–14 14–21 21–44 0–15 15–35 35–46 46–60
CrD3	Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes, severely eroded.		
CrE	Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes.		
CrE3	Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes, severely eroded.		
DuB2	Dulac silt loam, 2 to 5 percent slopes, eroded.	Soils of uplands; 2 feet of silt loam or silty clay loam, over a silty clay loam fragipan about 1 foot thick, underlain by clay more than 2 feet thick; internal drainage impeded by the fragipan and the seasonally high water table above the fragipan.	0–6 6–18 18–25 25–38 38–60
DuB3	Dulac silt loam, 2 to 5 percent slopes, severely eroded.		
DuC2	Dulac silt loam, 5 to 8 percent slopes, eroded.		
DuC3	Dulac silt loam, 5 to 8 percent slopes, severely eroded.		
DuD2	Dulac silt loam, 8 to 12 percent slopes, eroded.		
DuD3	Dulac silt loam, 8 to 12 percent slopes, severely eroded.		
Fa	Falaya silt loam.	Somewhat poorly drained silt loam alluvial soils; seasonally high water table at a depth of ½ foot; subject to flooding; slopes of 0 to 2 percent.	0–7 7–11 11–60
Fb	Falaya silt loam, local alluvium.		
FkB	Falkner silt loam, 2 to 5 percent slopes.	Soils of uplands; ½ foot of silt loam or silty clay loam, underlain by 2 feet or more of clay; seasonally high water table at a depth of 1 foot.	0–7 7–22 22–31 31–45
FkB2	Falkner silt loam, 2 to 5 percent slopes, eroded.		
FkC2	Falkner silt loam, 5 to 8 percent slopes, eroded.		
FrB2	Freeland silt loam, 2 to 5 percent slopes, eroded.	Soils on terraces; 2 feet of silt loam or silty clay loam, over a loam or fine sandy loam fragipan 1½ feet thick, overlying fine sandy loam; internal drainage impeded by the fragipan; seasonally high water table above the fragipan.	0–5 5–25 25–35 35–60
FrB3	Freeland silt loam, 2 to 5 percent slopes, severely eroded.		
FrC3	Freeland silt loam, 5 to 8 percent slopes, severely eroded.		

their estimated physical and chemical properties

Classification			Percentage passing sieve—		Permeability	Available moisture capacity	Reaction	Shrink-swell potential
USDA texture	Unified	AASHO	No. 10 (2.0 mm.)	No. 200 (0.74 mm.)	*Inches per hour*	*Inches per inch of soil*	*pH value*	
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	0. 26	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 26	5. 1–5. 5	Low.
Silty clay loam	CL	A–4 or A–6	100	80–90	0. 0–0. 5	. 20	4. 5–5. 0	Low to moderate.
Loam	CL	A–4 or A–6	100	50–80	0. 0–0. 5	. 20	4. 5–5. 0	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 25	5. 6–6. 0	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 25	5. 1–5. 5	Low.
Silty clay loam	CL	A–6 or A–7	100	80–90	0. 0–0. 5	. 16	5. 1–5. 5	Moderate.
Silty clay loam	CL	A–6 or A–7	100	80–90	0–2–0. 8	. 14	5. 1–5. 5	Moderate.
Silt loam	ML–CL	A–4	100	80–90	0. 8–2. 5	. 20	5. 1–5. 5	Low.
Silty clay loam	CL	A–6 or A–7	100	80–90	0. 8–2. 5	. 20	5. 1–5. 5	Moderate.
Silty clay	CH	A–7	100	90–100	0. 2–0. 8	. 21	5. 1–5. 5	High.
Silty clay loam	CL	A–6 or A–7	100	90–100	0. 8–2. 5	. 20	5. 1–5. 5	Moderate.
Silty clay loam	CL	A–6 or A–7	100	90–100	0. 8–2. 5	. 20	5. 1–5. 5	Moderate.
Silty clay	CH	A–7	100	90–100	0. 2–0. 8	. 21	5. 1–5. 5	High.
Clay	CH	A–7	100	90–100	0. 05–0. 20	. 25	5. 1–5. 5	High.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 24	5. 6–6. 0	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 24	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 25	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 25	5. 1–5. 5	Low.
Fine sandy loam	SM or SC	A–4	100	40–50	2. 5–5. 0	. 13	5. 6–6. 0	Low.
Sandy clay	CL	A–7–6	100	35–55	0. 2–0. 8	. 20	5. 1–5. 5	Moderate to high.
Sandy clay loam	SC	A–4 or A–6	100	45–55	0. 2–0. 8	. 14	5. 1–5. 5	Low to moderate.
Sandy loam	SM	A–2–4	95–100	20–30	2. 5–5. 0	. 14	5. 1–5. 5	Low.
Sandy loam	SM or SC	A–2 or A–4	100	30–45	2. 5–5. 0	. 13	5. 1–5. 5	Low.
Sandy clay loam	SM–SC	A–4 or A–6	100	45–55	2. 5–5. 0	. 14	5. 1–5. 5	Low to moderate.
Sandy loam	SM–SC or SC	A–2 or A–4	100	30–45	2. 5–5. 0	. 12	5. 1–5. 5	Low.
Loamy sand	SP or SM	A–2	95–100	10–20	5. 0–10. 0	. 06	4. 5–5. 0	Low to none.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 26	4. 5–5. 0	Low.
Silty clay loam	CL	A–6 or A–7–6	100	90–100	0. 8–2. 5	. 26	5. 1–5. 5	Moderate to high.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 16	5. 1–5. 5	Low to moderate.
Silty clay loam	CL	A–6 or A–7–6	100	85–95	0. 5–0. 2	. 16	5. 1–5. 5	Moderate to high.
Clay	CH	A–7–6 or A–7–5	100	70–80	0. 2–0. 8	. 20	5. 1–5. 5	High.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 24	5. 0–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 25	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 25	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 25	4. 5–5. 0	Low.
Silty clay loam	ML–CL	A–6 or A–7–6	100	90–100	0. 2–0. 8	. 25	5. 1–5. 5	Moderate.
Silty clay	CH	A–7–5 or A–7–6	100	80–90	0. 2–0. 8	. 26	4. 5–5. 0	High.
Clay	CH	A–7–5 or A–7–6	100	80–90	0. 2–0. 8	. 26	5. 1–5. 5	High.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 26	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4 or A–6	100	90–100	0. 8–2. 5	. 26	5. 1–5. 5	Low to moderate.
Loam	ML–CL	A–4 or A–6	100	45– 55	0. 0–0. 2	. 15	5. 1–5. 5	Low.
Fine sandy loam	SM–SC	A–2 or A–4	100	30– 50	0. 0–0. 2	. 15	4. 5–5. 0	Low.

TABLE 5.—*Brief descriptions of the soils and*

Map symbol	Soil name	Description of soil and site	Depth from surface
			Inches
Gu	Gullied land.	A land type consisting of very severely gullied soils that are too variable for estimating their physical properties.	
HaA	Hatchie silt loam, 0 to 2 percent slopes.	Soils on terraces; 1½ feet of silt loam or silty clay loam, over a silt loam or silty clay loam fragipan about 2 feet thick, underlain by loam or clay loam; internal drainage impeded by the fragipan; seasonally high water table above the fragipan.	0–7
HaB	Hatchie silt loam, 2 to 5 percent slopes.		7–17
HaB2	Hatchie silt loam, 2 to 5 percent slopes, eroded.		17–41
			41–60
Hn	Henry silt loam.	Poorly drained soils of uplands; 1½ feet of silt loam, over a silt loam or silty clay loam fragipan about 2½ feet thick; internal drainage impeded by the fragipan; seasonally high water table at a depth of ½ foot; slopes of 0 to 2 percent.	0–10
			10–17
			17–42
			42–54
Ma	Mayhew silty clay loam.	Poorly drained soils of uplands; clay to a depth of 5 feet or more; seasonally high water table at a depth of ½ foot; slopes of 0 to 2 percent.	0–4
			4–32
			32–60
Mx	Mixed alluvial land.	A somewhat poorly to excessively drained land type of variable texture on bottoms; developed from loess and sandy Coastal Plain material; too variable for estimating physical properties.	
OeF	Orangeburg and Eustis soils, 17 to 35 percent slopes.	Orangeburg: Soils of uplands; 1 foot of fine sandy loam, over 2 feet of sandy clay loam, overlying 2 feet of sandy loam.	0–2
			2–12
			12–38
			38–60
		Eustis: Soils of uplands; 5 feet or more of loamy sand or sand.	0–9
			9–26
			26–57
			57–75
PrB2	Providence silt loam, 2 to 5 percent slopes, eroded.	Soils of uplands; about 2 feet of silt loam or silty clay loam, over a silt loam or fine sandy loam fragipan 1½ feet thick; underlain by 1½ feet of fine sandy loam; seasonally high water table above the fragipan.	0–5
PrB3	Providence silt loam, 2 to 5 percent slopes, severely eroded.		5–22
PrC2	Providence silt loam, 5 to 8 percent slopes, eroded.		22–29
			29–56
PrC3	Providence silt loam, 5 to 8 percent slopes, severely eroded.		
PrD2	Providence silt loam, 8 to 12 percent slopes, eroded.		
PrD3	Providence silt loam, 8 to 12 percent slopes, severely eroded.		
Tc	Tickfaw silt loam.	Poorly drained soils of uplands; about 1½ feet of silt loam, over 3½ feet of heavy silty clay loam or silty clay; seasonally high water table at surface; slopes of 0 to 2 percent.	0–6
			6–16
			16–29
			29–48
Ur	Urbo silty clay loam.	Soils of bottom land; 1¼ feet of silty clay loam, over 2¾ feet or more of silty clay or clay; seasonally high water table at surface; subject to flooding; slopes of 0 to 2 percent.	0–16
			16–28
			28–48
Wa	Waverly silt loam.	Poorly drained soils of bottom land; silt loam or light silty clay loam to a depth of 4 feet or more; seasonally high water table at the surface; subject to flooding; slopes of 0 to 2 percent.	0–6
			6–35
			35–50

their estimated physical and chemical properties—Continued

Classification			Percentage passing sieve—		Permeability	Available moisture capacity	Reaction	Shrink-swell potential
USDA texture	Unified	AASHO	No. 10 (2.0 mm.)	No. 200 (0.74 mm.)				
					Inches per hour	*Inches per inch of soil*	*pH value*	
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	0. 26	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 21	5. 1–5. 5	Low.
Silty clay loam	CL	A–6 or A–7–6	100	85–100	0. 0–0. 2	. 15	5. 1–5. 5	Moderate.
Clay loam	CL or CH	A–6 or A–7–6	100	50–60	0. 0–0. 2	. 19	4. 5–5. 0	Moderate to high.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 26	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 26	4. 5–5. 0	Low.
Silt loam	ML–CL	A–4 or A–6	100	80–90	0. 0–0. 5	. 18	5. 1–5. 5	Moderate.
Silty clay loam	CL	A–6	100	80–90	0. 0–0. 5	. 18	5. 1–5. 5	Moderate.
Silty clay loam	CL	A–6	100	90–100	0. 05–0. 02	. 25	5. 5–5. 5	Moderate.
Clay	CH	A–7	100	80–90	0. 0–0. 5	. 21	5. 1–5. 5	High.
Clay	CH	A–7	100	80–90	0. 0–0. 5	. 21	5. 1–5. 5	High.
Fine sandy loam	SM–SC or SM.	A–2 or A–4	100	30–45	2. 5–5. 0	. 13	6. 1–6. 5	Low.
Fine sandy loam	SM–SC or SM.	A–2 or A–4	100	30–45	2. 5–5. 0	. 13	5. 1–5. 5	Low.
Sandy clay loam	SM–SC or SC.	A–6 or A–4	100	45–55	2. 5–5. 0	. 15	5. 1–5. 5	Low to moderate.
Sandy loam	SM–SC or SM.	A–4	100	30–45	2. 5–5. 0	. 13	4. 5–5	Low.
Loamy sand	SM	A–2	100	10–20	5. 0–10	. 06	6. 6–7. 3	Low.
Loamy sand	SM	A–2	100	10–20	5. 0–10	. 06	6. 1–6. 5	Low.
Sand	SP–SM	A–2	95–100	10–20	5. 0–10	. 06	5. 6–6. 0	Low to none.
Sandy loam	SM–SC or SM.	A–2	100	20–30	5. 0–10	. 12	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 25	6. 1–6. 5	Low.
Silty clay loam	CL	A–6 or A–7	100	90–100	0. 8–2. 5	. 24	5. 6–6. 0	Moderate.
Silt loam	ML–CL	A–4 or A–6	100	90–100	0. 5–0. 2	. 15	5. 6–6. 0	Low to moderate.
Fine sandy loam	SM–SC or SM.	A–2 or A–4	95–100	30–50	2. 5–5. 0	. 12	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 8–2. 5	. 21	5. 1–5. 5	Low.
Silty clay loam	CL	A–6 or A–7	100	90–100	0. 8–2. 5	. 24	5. 1–5. 5	Moderate to high.
Silty clay loam	CH	A–7	100	90–100	0. 2–0. 8	. 20	5. 1–5. 5	High.
Silty clay	CH	A–7	100	80–90	0. 2–0. 8	. 20	5. 1–5. 5	High.
Silty clay loam	CL	A–6 or A–7	100	90–100	0. 8–2. 5	. 25	5. 1–5. 5	Moderate to high.
Silty clay	CH	A–7	100	90–100	0. 2–0. 8	. 25	5. 1–5. 5	High.
Clay	CH	A–7	100	90–100	0. 0–0. 2	. 21	5. 1–5. 5	High.
Silt loam	ML–CL	A–4	100	90–100	0. 2–0. 8	. 25	5. 1–5. 5	Low.
Silt loam	ML–CL	A–4	100	90–100	0. 2–0. 8	. 25	5. 1–5. 5	Low.
Silty clay loam	CL	A–6	100	90–100	0. 2–0. 8	. 25	5. 1–5. 5	Moderate.

TABLE 5.—*Brief descriptions of the soils and*

Map symbol	Soil name	Description of soil and site	Depth from surface
			Inches
WcB2	Wilcox silty clay loam, 2 to 5 percent slopes, eroded.	Soils of uplands; silty clay or clay to a depth of 4 feet or more.	0–5
WcB3	Wilcox silty clay loam, 2 to 5 percent slopes, severely eroded.		5–11
WcC2	Wilcox silty clay loam, 5 to 8 percent slopes, eroded.		11–40
WcC3	Wilcox silty clay loam, 5 to 8 percent slopes, severely eroded.		
WcD3	Wilcox silty clay loam, 8 to 12 percent slopes, severely eroded.		

TABLE 6.—*Interpretations of*

Map symbol	Soil	Suitability as source of—			Soil features affecting—	
		Topsoil	Sand	Road fill	Highway location	Dikes or levees
Al	Almo silt loam.	Poor	Unsuitable	Poor to fair	High water table; occasional flooding.	Slow permeability; poor stability.
BuB	Bude silt loam, 2 to 5 percent slopes.	Surface layer is fair.	Unsuitable	Fair; fair stability.	Moderately high water table; seasonal, perched water table above fragipan.	Moderate permeability; fair stability; subsoil has high shrink-swell potential.
BuB2	Bude silt loam, 2 to 5 percent slopes, eroded.					
BuC	Bude silt loam, 5 to 8 percent slopes.					
Ca	Chastain silt loam.	Poor	Unsuitable	Poor; plastic clay subsoil.	High water table; plastic soil material; flooding.	Very slow permeability; subsoil has high shrink-swell potential.
Ch	Chastain silty clay loam.	Poor	Unsuitable	Poor; plastic clay subsoil.	High water table; flooding; plastic soil material.	Very slow permeability; high shrink-swell potential; cracks when dry.
Co	Collins silt loam.	Fair to good	Unsuitable	Poor to fair	High water table; flooding.	Moderate permeability; poor stability; close control of moisture essential.
Cm	Collins silt loam, local alluvium.					
	Cuthbert (Mapped only with Dulac and Ruston soils).	Fair	Unsuitable	Poor; good below 2 feet.	Plastic clay subsoil.	Slow permeability; moderate shrink-swell potential.
CrD	Cuthbert, Dulac, and Ruston soils 8 to 12 percent slopes.	Variable—see interpretations for separate series.				
CrD3	Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes, severely eroded.					
CrE	Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes.					
CrE3	Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes, severely eroded.					

their estimated physical and chemical properties—Continued

Classification			Percentage passing sieve—		Permeability	Available moisture capacity	Reaction	Shrink-swell potential
USDA texture	Unified	AASHO	No. 10 (2.0 mm.)	No. 200 (0.74 mm.)				
					Inches per hour	*Inches per inch of soil*	*pH value*	
Silty clay loam	CL	A–6 or A–7	100	90–100	. 05–0. 2	0. 25	5. 1–5. 5	Moderate to high.
Silty clay	CH	A–7	100	90–100	. 05–0. 2	. 21	4. 5–5. 0	High.
Clay	CH	A–7	100	80–90	0. 0–0. 05	. 21	4. 5–5. 0	High.

engineering properties of the soils

Soil features affecting—Continued						Limitations for septic tank disposal fields
Farm Ponds		Agricultural drainage	Irrigation	Terraces and diversions	Waterways	
Reservoir area	Embankment					
Slow permeability; slow seepage.	Poor to fair strength and stability.	Seasonally high water table; flooding; flat topography; slow permeability.	Low available moisture capacity; high cost compared to benefits.	No need for terraces; diversions may be needed.	Low, nearly level position.	Severe.
Moderate permeability; slow seepage.	Moderate permeability; low to moderate shrink-swell potential.	Needs surface drainage in nearly level areas; moderate permeability.	Moderate to low available moisture capacity; requires frequent applications of water; slow intake rate.	Moderate erodibility.	Moderate erodibility; sod grows well.	Severe.
Very slow permeability; high water table.	Poor to fair strength and stability; cracks when dry.	High water table; flat topography; needs surface drainage.	Moderate available moisture capacity; high cost compared to benefits.	Nearly level topography; terraces not needed; diversions may be needed.	Low, nearly level position.	Severe.
Very slow permeability; high water table.	Very slow permeability; plastic subsoil; cracks when dry.	High water table; flat topography; needs surface drainage.	Moderate available moisture capacity; high cost compared to benefits.	Nearly level topography; terraces not needed; diversions may be needed.	Low, nearly level position.	Severe.
Moderate permeability; little seepage.	Low strength and poor stability; soil can be used if properly controlled.	High water table; flooding; flat topography.	High available moisture capacity; favorable rate of infiltration.	No need for terraces; diversions may be needed.	Low, nearly level position.	Severe.
Slow permeability.	Poor stability.	Not needed.	Poor agricultural soil; steep slopes.	High erodibility; steep slopes.	High erodibility; steep slopes.	Severe.

TABLE 6.—*Interpretations of*

Map symbol	Soil	Suitability as source of—			Soil features affecting—	
		Topsoil	Sand	Road fill	Highway location	Dikes or levees
DuB2 DuB3 DuC2 DuC3 DuD2 DuD3	Dulac silt loam, 2 to 5 percent slopes, eroded. Dulac silt loam, 2 to 5 percent slopes, severely eroded. Dulac silt loam, 5 to 8 percent slopes, eroded. Dulac silt loam, 5 to 8 percent slopes, severely eroded. Dulac silt loam, 8 to 12 percent slopes, eroded. Dulac silt loam, 8 to 12 percent slopes, severely eroded.	Fair to good	Unsuitable	Fair above 2 feet; poor below.	Moderately high water table above fragipan during winter months.	Moderate to slow permeability; fair to poor stability.
	Eustis (Mapped only with Orangeburg soils).	Fair	Good	Good	Steep slopes	Rapid permeability; low shrink-swell potential.
Fa Fb	Falaya silt loam. Falaya silt loam, local alluvium.	Fair to good	Unsuitable	Poor to fair	High water table; flooding.	Moderate to slow permeability; poor stability; soil can be used if properly controlled.
FkB FkB2 FkC2	Falkner silt loam, 2 to 5 percent slopes. Falkner silt loam, 2 to 5 percent slopes, eroded. Falkner silt loam, 5 to 8 percent slopes, eroded.	Surface layer is fair.	Unsuitable	Fair to poor stability.	Moderately high water table; plastic subsoil.	Moderate to slow permeability; high shrink-swell potential.
FrB2 FrB3 FrC3	Freeland silt loam, 2 to 5 percent slopes, eroded. Freeland silt loam, 2 to 5 percent slopes, severely eroded. Freeland silt loam, 5 to 8 percent slopes, severely eroded.	Surface layer good; other layers fair.	Unsuitable	Fair	Moderately high water table during winter months; fragipan.	Moderate to slow permeability; fair to poor stability.
Gu	Gullied land.	Variable land type; very severely gullied.				
HaA HaB HaB2	Hatchie silt loam, 0 to 2 percent slopes. Hatchie silt loam, 2 to 5 percent slopes. Hatchie silt loam, 2 to 5 percent slopes, eroded.	Poor	Unsuitable	Poor to fair	Moderately high water table; fragipan.	Moderate to slow permeability; poor stability.
Hn	Henry silt loam.	Poor	Unsuitable	Poor to fair	High water table; fragipan.	Moderate to slow permeability; poor stability.
Ma	Mayhew silty clay loam.	Poor	Unsuitable	Poor plastic clay	High water table; plastic soils.	High shrink-swell potential; cracks when dry; slow permeability.
Mx	Mixed alluvial land.	Land type too variable to interpret.				
	Orangeburg (Mapped only with Eustis soils)	Good	Fair	Fair to good	Steep slopes	Moderate permeability; low shrink-swell potential.
OeF	Orangeburg and Eustis soils, 17 to 35 percent slopes.	Variable—see interpretations for separate series.				

engineering properties of the soils—Continued

Soil features affecting—Continued						Limitations for septic tank disposal fields
Farm Ponds		Agricultural drainage	Irrigation	Terraces and diversions	Waterways	
Reservoir area	Embankment					
Moderate to slow permeability; slow seepage.	Moderate to slow permeability; lower subsoil has high shrink-swell potential.	May need surface drainage on less steep slopes.	Moderate available moisture capacity; slow infiltration.	High erodibility; fragipan at 2 feet over clay.	High erodibility; but sod grows well.	Severe.
Rapid permeability; excessive seepage.	Poor stability	Not needed	Steep slopes; low available moisture capacity.	Steep slopes; moderate erodibility.	Steep slopes; moderate erodibility.	Slight; excessive seepage.
Moderate to slow permeability; slow seepage.	Low strength and stability; soil can be used if properly controlled.	High water table; flat topography; needs surface drainage.	Moderate available moisture capacity; slow infiltration.	No need for terraces; diversions may be needed.	Low, nearly level position.	Severe.
Moderate permeability in upper subsoil; slow in lower subsoil.	Fair to poor stability.	May need surface drainage on less steep slopes.	Moderate to low available moisture capacity; requires frequent water applications; slow infiltration.	Moderate erodibility.	Moderate erodibility.	Severe.
Moderate to slow permeability.	Fair to poor stability.	May need surface drainage on less steep slopes.	Moderate available moisture capacity; slow infiltration.	High erodibility	High erodibility, but sod grows well.	Moderate.
Moderate to slow permeability; slow seepage.	Low to moderate shrink-swell potential.	Moderately high water table; needs surface drainage.	Moderate to low available moisture capacity; slow infiltration.	Moderate erodibility.	Moderate erodibility; sod grows well.	Severe.
Moderate to slow permeability; slow seepage.	Poor strength and stability; soil can be used when properly controlled.	Seasonally high water table; flat topography.	Low available moisture capacity; high cost compared to benefits.	Terraces are not needed; diversions may be needed.	Low; nearly level position.	Severe.
Slow permeability; high water table.	High shrink-swell potential; cracks when dry.	Seasonally high water table; flat topography; slow permeability.	Low available moisture capacity; poor agricultural soil.	Terraces are not needed; diversions may be needed.	Low; nearly level position.	Severe.
Moderate permeability; moderate to excessive seepage.	Stable; low shrink-swell potential.	Drainage not needed.	Steep slopes; low available moisture capacity.	Steep slopes; moderate erodibility.	Steep slopes; moderate erodibility.	Slight.

TABLE 6.—*Interpretations of*

Map symbol	Soil	Suitability as source of—			Soil features affecting—	
		Topsoil	Sand	Road fill	Highway location	Dikes or levees
PrB2	Providence silt loam, 2 to 5 percent slopes, eroded.	Surface layer good; other layers fair.	Unsuitable	Fair to good stability.	Moderately high water table during winter months.	Moderate to slow permeability; fair to poor stability.
PrB3	Providence silt loam, 2 to 5 percent slopes, severely eroded.					
PrC2	Providence silt loam, 5 to 8 percent slopes, eroded.					
PrC3	Providence silt loam, 5 to 8 percent slopes, severely eroded.					
PrD2	Providence silt loam, 8 to 12 percent slopes, eroded.					
PrD3	Providence silt loam, 8 to 12 percent slopes, severely eroded.					
	Ruston (Mapped only with Cuthbert and Dulac soils).	Fair	Good below 3 feet.	Good	Moderate permeability; well drained.	Good compaction; good stability.
Tc	Tickfaw silt loam.	Poor	Unsuitable	Poor	High water table; plastic subsoil.	Moderate to slow permeability; high shrink-swell potential; cracks when dry.
Ur	Urbo silty clay loam.	Poor to fair	Unsuitable	Poor	High water table; flooding; plastic soil.	Moderate permeability; high shrink-swell potential; cracks when dry.
Wa	Waverly silt loam.	Poor	Unsuitable	Fair to poor	High water table; flooding.	Moderate to slow permeability; poor stability.
WcB2	Wilcox silty clay loam, 2 to 5 percent slopes, eroded.	Poor	Unsuitable	Poor	Plastic soils	Slow permeability; high shrink-swell potential; cracks when dry.
WcB3	Wilcox silty clay loam, 2 to 5 percent slopes, severely eroded.					
WcC2	Wilcox silty clay loam, 5 to 8 percent slopes, eroded.					
WcC3	Wilcox silty clay loam, 5 to 8 percent slopes, severely eroded.					
WcD3	Wilcox silty clay loam, 8 to 12 percent slopes, severely eroded.					

The clay layers in the Falkner, Wilcox, Mayhew, Tickfaw, Urbo, and Chastain soils shrink when dry and swell when wet. If subgrades made of these soils are too wet when the pavement is constructed above them, the soil will shrink as it dries under the edges of the pavement. This may cause the pavement to crack. If subgrades of these soils are too dry, the pavement will warp as the soil absorbs moisture and swells. Pavements laid over plastic soils will crack and warp less if a thick layer of less plastic soil material is used as a foundation course beneath the pavement. This foundation course should extend through the road shoulder to provide adequate drainage.

The clay soil materials should be covered with a porous base course of sand and gravel to prevent pumping action under traffic. A thin layer of sand over these clay soils is desirable to minimize intrusion of clay into the overlying granular base course material. Clay materials are most subject to pumping action, but other kinds are also affected, especially if there is an undrained fragipan below the pavement.

Genesis, Classification, and Morphology of Soils

This section explains the genesis or formation of the soils, and the classification of the soils in orders and great

engineering properties of the soils—Continued

Soil features affecting—Continued						Limitations for septic tank disposal fields
Farm Ponds		Agricultural drainage	Irrigation	Terraces and diversions	Waterways	
Reservoir area	Embankment					
Moderate to slow permeability; moderate seepage.	Low to moderate shrink-swell potential.	May need surface drainage on less steep slopes; moderate to slow permeability.	Moderate available moisture capacity; slow infiltration.	High erodibility	High erodibility; but sod grows well.	Moderate to slight.
Moderate to excessive seepage.	Stable; low shrink-swell potential.	Not needed	Moderate available moisture capacity; rapid infiltration.	Moderate erodibility; steep slopes.	Moderate erodibility; steep slopes.	Slight.
Moderate to slow permeability; plastic clay subsoil.	Poor to fair strength and stability; cracks when dry.	Seasonally high water table; flat topography; moderate to slow permeability.	Poor agricultural soil; low available moisture capacity.	Terraces not needed; diversions may be needed.	Low, nearly level position.	Severe.
Plastic clay; moderate to slow permeability.	Plastic clay material; cracks when dry.	Seasonally high water table; flat topography; moderate to slow permeability.	Moderate available moisture capacity; moderate infiltration.	No need for terraces; diversions may be needed.	Low, nearly level position.	Severe.
Moderate to slow permeability.	Fair to poor strength and stability.	High water table; slow permeability.	Poor agricultural soil; slow infiltration.	Terraces not needed; diversions may be needed.	Low, nearly level position.	Severe.
Slow permeability; plastic clay material.	High shrink-swell potential; cracks when dry.	Slow permeability.	Moderate available moisture capacity; slow infiltration.	High erodibility	High erodibility	Severe.

soil groups. It also describes, in detail, a representative profile of each soil series.

Genesis of Soils

Soil is the result of the interaction of *parent material*, *living organisms*, *time*, *climate*, and *topography*. The nature of the soil at any point on the earth depends upon the combination of these five factors at that point. All of these factors take part in the formation of every soil, but the importance of each differs from one locality to another. One, or a group of factors, is important in one area, but a different factor or group may be important in another area. Ordinarily, the differences among soils of distant places are caused by climate and parent material, whereas the differences between adjacent soils are generally the result of parent material or of topographic position. Thus, the present character of every soil is determined by the past combination of the five soil-forming factors.

Parent material

Parent material is the unconsolidated mass from which soil develops. It is largely the source of the chemical and mineralogical composition of soils. In Calhoun County the parent material of most of the soils was derived from

Coastal Plain material and loess. The soils of the loessal area have formed in a thin mantle of loess that overlaps the clays of the Porters Creek formation of the Midway group (*4*). The soils of the Coastal Plain areas have formed in the dominantly sandy materials that make up the Naheola formation of the Midway group, the Wilcox group (undifferentiated), and the Meridian formation of of the Clairborne group (*4*).

The soils along the larger streams in the county formed in alluvium, which is material that has been deposited by streams. Much of this alluvium originated from the sand and clay of Coastal Plain material, but some of it came from the silt of the thin loess mantle. The soils on the first bottoms still receive deposits and therefore show little horizon development, but those on old, high terraces and benches have been in place long enough to have developed horizons. Along drainageways throughout the uplands, there are narrow strips of local alluvium that has been modified hardly at all by soil-forming processes.

Climate

Climate affects the physical, chemical, and biological relationships in the soil, primarily through precipitation and temperature. Water dissolves minerals, supports biological activity, and transports mineral and organic residue through the soil profile. The amount of water that percolates through the soil over a broad area is dependent mainly upon rainfall, relative humidity, and the length of the frost-free period; and at a given point, the amount of downward percolation is also affected by physiographic position and by soil permeability. Temperature influences the kinds and growth of organisms and the speed of physical and chemical reactions in soils. Also, microclimatic variations cause certain soil characteristics that differ from those developed under the prevailing macroclimate.

Under the present climate in Calhoun County, the soils are moist and subject to leaching most of the year (see table 8).

Freezing and thawing in this county have very little effect on weathering and soil-forming processes. The average temperature is approximately 49° F. from about December 1 through February 28, as shown in table 8.

Plant and animal life

Bacteria, fungi, and other micro-organisms aid in weathering rock and decomposing organic matter. The larger plants alter the soil microclimate, supply organic matter, and transfer elements from the subsoil to the surface soil.

The kinds and numbers of plants and animals that live on and in the soil are determined mainly by climate and, to a varying degree, by parent material, relief, and age of the soil.

Not much is known of the fungi and micro-organisms in the soils of this county, except that they are confined mostly to the upper few inches. Earthworms and other small invertebrates are most active in the A1 horizon, where they carry on a slow but continual cycle of soil mixing. Rodents apparently have not mixed soil materials much in Calhoun County.

The native vegetation of the uplands was chiefly oak, hickory, and shortleaf pine. On the bottom lands were lowland hardwoods—chiefly yellow-poplar, sweetgum, oak, cottonwood, and ash; and on the poorly drained areas of bottom lands were cypress, blackgum, willow, beech, and water-tolerant oak.

Topography

Topography is determined mostly by the underlying bedrock formations, by the geologic history of the region, and by the dissections of rivers and streams. Topography, in turn, influences soil formation by affecting moisture relations, erosion, temperature, and plant cover. This influence is modified by the other four soil-forming factors.

The slopes in Calhoun County range from 0 to 35 percent. In the upland areas, soils such as Dulac, Providence, and Bude have thick, well-expressed profiles where they occur on slopes of less than 12 percent. Where the slopes are 12 to 35 percent, however, the topography may cause geological removal of the soils almost as fast as they are formed. As a result of geologic erosion, the Eustis and other soils on the steeper slopes have thin, weakly expressed profiles. Most of the alluvial soils in the county are level to nearly level.

Time

The length of time required for soil development depends largely on the other factors of soil formation. Less time is generally required for a soil to develop in humid, warm regions with luxuriant vegetation than in cold, dry regions. Also, less time is required if the parent material is coarse textured than if it is fine textured, other things being equal.

The soils of Calhoun County vary considerably in age. Generally the older soils show a greater degree of horizon differentiation. For example, on the more nearly level parts of the uplands and on the older stream terraces, the soils have developed to maturity. On the stronger slopes, however, geologic erosion has removed the soil material so rapidly that there has been less development. On the first bottoms and in areas of local alluvium, the soil materials have been in place too short a time to allow for mature development.

Classification and Morphology of Soils

In the United States, soils are classified in a natural soil classification system consisting of six categories, one above the other. Beginning at the top, the six categories are the order, suborder, great soil group, family, series, and type (*8*, *10*).

The highest category consists of three orders, whereas the lowest category consists of thousands of soil types. The suborder and family categories have never been fully developed and, thus, have been little used. Attention has been given mostly to classifying soils of counties or comparable areas into soil types and series (*11*) and subsequently into great soil groups and orders.

Table 7 shows the classification of soil series of Calhoun County by orders and great soil groups, describes briefly the profile of each series, and shows the factors that have contributed to their morphology.

TABLE 7.—*Characteristics and genetic relationships of soil series*

Order, great soil group, and soil series	Profile description [1]	Position	Drainage class	Slope range	Parent material	Degree of profile development [2]
Zonal Order						
Red-Yellow Podzolic soils						
Representative:				*Percent*		
Cuthbert	Very dark gray to dark-brown fine sandy loam or loamy sand, over yellowish-red clay, underlain by thin strata or beds of sand and clay.	Upland	Moderately well drained.	8 to 35	Coastal Plain sand and clay.	Moderate.
Orangeburg	Very dark gray to gray fine sandy loam, over dark-red sandy clay loam, underlain by sandy loam or loamy sand.	Upland	Well drained.	17 to 35	Coastal Plain sandy loam and loamy sand.	Moderate.
Ruston	Dark-brown fine sandy loam or loamy sand, over yellowish-red sandy clay loam, underlain at about 35 inches by loose loamy sand or sandy loam.	Upland	Well drained.	8 to 35	Coastal Plain sandy loam, sandy clay loam, and loamy sand.	Moderate.
Wilcox	Brown or yellowish-brown silty clay loam, over mottled strong-brown and red silty clay, underlain by mottled gray, red, and pale-brown clay at a depth of 10 to 20 inches.	Upland	Somewhat poorly drained.	2 to 12	Coastal Plain clay.	Weak or moderate.
With fragipan:						
Dulac	Dark grayish-brown to dark-brown silt loam, over strong-brown to yellowish-red silty clay loam; fragipan at about 25 inches, underlain by mottled gray or red clay.	Upland	Moderately well drained.	2 to 12	Thin mantle of loess over Coastal Plain clay.	Strong.
Freeland	Dark grayish-brown or dark-brown silt loam, over dark-brown or yellowish-brown silt loam or silty clay loam; fragipan at about 22 inches, underlain by coarse-textured Coastal Plain material.	Terrace	Moderately well drained.	2 to 8	Loess over Coastal Plain sand.	Strong.
Providence	Dark grayish-brown to dark-brown silt loam over yellowish-red to strong-brown silty clay loam; fragipan at about 25 inches, underlain by coarse-textured Coastal Plain material.	Upland	Moderately well drained.	2 to 12	Thin mantle of loess over Coastal Plain sand.	Strong.
Intergrading toward Low-Humic Gley:						
Falkner	Dark grayish-brown to yellowish-brown silt loam, over yellowish-brown to brownish-yellow silty clay loam, underlain at about 22 inches by mottled gray or gray clay.	Upland	Somewhat poorly drained.	2 to 8	Loess over Coastal Plain clay.	Moderate.
Intrazonal Order						
Planosols						
With fragipan:						
Almo	Dark-brown to dark grayish-brown silt loam, over a gray silt loam subsoil; fragipan at about 18 inches.	Terrace	Poorly drained.	0 to 2	Thin loess over Coastal Plain sand.	Strong.
Bude	Dark-brown silt loam, over a yellowish-brown silt loam or silty clay loam subsoil; mottled gray and brown fragipan at about 18 inches.	Upland	Somewhat poorly drained.	2 to 8	Thin loess over Coastal Plain sand.	Strong.
Hatchie	Dark grayish-brown to brown silt loam, over a yellowish-brown silt loam or silty clay loam subsoil; fragipan at about 18 inches, underlain by Coastal Plain material.	Terrace	Somewhat poorly drained.	0 to 5	Thin loess over Coastal Plain sand.	Strong.
Henry	Dark grayish-brown or brown silt loam, over a mottled gray or gray silt loam or silty clay loam subsoil; fragipan at about 18 inches.	Upland	Poorly drained.	0 to 2	Thin loess over Coastal Plain sand.	Strong.

See footnotes at end of table.

TABLE 7.—*Characteristics and genetic relationships of soil series*—Continued

Order, great soil group, and soil series	Profile description [1]	Position	Drainage class	Slope range	Parent material	Degree of profile development [2]
Low-Humic Gley soils				*Percent*		
Chastain	Mottled grayish-brown to gray silt loam or silty clay loam, over gray silty clay or clay at about 18 inches.	Bottom land.	Poorly drained.	0 to 2	Recent alluvium of loess and Coastal Plain clay.	Weak.
Mayhew	Dark grayish-brown to dark-brown silty clay loam, over gray or mottled gray, yellow, and brown silty clay or clay.	Upland	Poorly drained.	0 to 2	Coastal Plain clay.	Weak.
Tickfaw	Dark-brown silt loam, over gray or mottled gray and yellowish-brown silt loam or silty clay loam, underlain by heavier clay at 12 to 16 inches.	Upland	Poorly drained.	0 to 2	Thin loess over Coastal Plain clay.	Moderate.
Waverly	Mottled brownish-gray and dark grayish-brown silt loam surface layer over a mottled gray or gray silt loam or silty clay loam subsoil.	Bottom land.	Poorly drained.	0 to 2	Recent alluvium of loess origin.	Weak.
Azonal Order						
Regosols						
Eustis	Dark grayish-brown to dark-brown loamy sand surface layer, over dark-brown to yellowish-red loamy sand and sand.	Upland	Somewhat excessively drained to excessively drained.	17 to 35	Coastal Plain sand.	Weak.
Alluvial soils						
Representative:						
Collins	Dark-brown silt loam, over dark-brown and yellowish-brown silt loam, over mottled gray and brown silt loam at a depth of 16 to 20 inches.	Bottom land.	Moderately well drained.	0 to 3	Recent alluvium of loess origin.	Weak.
Intergrading toward Low-Humic Gley:						
Falaya	Dark-brown to grayish-brown silt loam, over mottled gray and brown silt loam at a depth of 6 to 16 inches.	Bottom land.	Somewhat poorly drained.	0 to 3	Recent alluvium of loess origin.	Weak.
Urbo	Dark-brown to dark grayish-brown silty clay loam, over gray or mottled gray and brown silty clay loam at a depth of 6 to 16 inches, underlain by heavier clay.	Bottom land.	Somewhat poorly drained.	0 to 3	Recent alluvium of loess and Coastal Plain clay.	Weak.

[1] These descriptions are of soil profiles not materially affected by accelerated erosion.
[2] As measured by the number of important genetic horizons and the degree of contrast between them.

Classes in the highest category of the classification system are the zonal, intrazonal, and azonal orders (*10*).

Zonal order

Zonal soils have distinct characteristics and well-differentiated horizons that reflect the influence of the active soil-forming factors—climate and living organisms, especially vegetation. In Calhoun County the soils in the zonal order are those in the Red-Yellow Podzolic great soil group.

RED-YELLOW PODZOLIC SOILS

This great soil group consists of well-developed, somewhat poorly drained to well-drained, acid soils formed under forest vegetation in a warm-temperate, humid climate. These soils have a thin organic (O2) and organic-mineral (A1) horizon, over a light-colored, bleached (A2) horizon, over a red, yellowish-red, strong-brown to brown, or yellow, more clayey (B) horizon. The parent materials are loess and Coastal Plain sandy and clayey material.

In general, the soils of this group have a low to moderate cation exchange capacity and a low to moderate base saturation. The clay mineralogy is mixed. The clay consists of kaolin, montmorillonite, illite, and amorphous minerals.

Most of the Red-Yellow Podzolic soils in Calhoun County have a dark-colored but thin A1 horizon, in which

the organic content ranges from about 1 percent to 2.5 percent, and a well-defined A2 horizon that has a weak granular or crumb structure and is no more than 1 percent organic matter. These soils are medium to strongly acid in the A2 horizon. They have a weak to moderate, fine to medium, angular and subangular blocky structure in the B horizon, which contains more clay than the A2 horizon. The B horizon is medium to very strongly acid. The C horizon structure is not as strong as that of the B horizon, and the proportion of clay is generally less.

Representative Red-Yellow Podzolic soils in Calhoun County are the Cuthbert, Orangeburg, Ruston, and Wilcox. Red-Yellow Podzolic soils with a fragipan are Dulac, Freeland, and Providence. The Falkner soils are Red-Yellow Podzolic soils intergrading toward Low-Humic Gley.

CUTHBERT SERIES.—Soils of the Cuthbert series have formed on uplands in Coastal Plain clay and thin lenses of sand. These soils are on slopes of 8 to 35 percent, are moderately well drained, and are strongly acid. The following is a profile description of Cuthbert fine sandy loam, 17 to 35 percent slopes, in a wooded area about 2¼ miles north of Banner (NW¼SW¼ sec. 14, T. 11 S., R. 2 W.).

O1—½ inch, partly decomposed leaves and grass litter.
Ap—0 to 6 inches, dark-brown (10YR 4/3) [5] fine sandy loam; weak, fine, granular structure; very friable; many fine roots; thin iron crust; strongly acid; abrupt, smooth boundary.
B2t—6 to 14 inches, yellowish-red (5YR 4/8) sandy clay; strong, medium and coarse, subangular blocky structure; firm when moist, sticky and plastic when wet; many fine roots; very strongly acid; gradual, wavy boundary.
B3t—14 to 21 inches, yellowish-red (5YR 5/8) sandy clay loam with few, fine, distinct, yellowish-brown (10YR 5/6) mottles; moderate, medium and coarse, subangular blocky structure; friable; few fine roots; strongly acid; abrupt, smooth boundary.
IIC—21 to 44 inches +, mottled reddish-yellow (7.5YR 6/8) and yellowish-red (5YR 4/8) sandy loam; single grain; friable; thin, horizontal strata or beds; thin iron crust 3 to 4 inches long; very strongly acid.

Range in characteristics: The surface layer ranges from fine sandy loam to loamy sand and from very dark gray to dark brown. The subsoil ranges from sandy clay loam to clay and from yellowish red to red. The underlying material may be clay or stratified beds of sand and clay. Some phases of Cuthbert soils have a thick surface layer. In these phases the A horizon is more than 18 inches but less than 30 inches thick.

ORANGEBURG SERIES.—Soils of the Orangeburg series have formed on uplands in thick beds of Coastal Plain sandy loam and sandy clay loam. These soils are well drained and strongly acid. They are on slopes of 17 to 35 percent. The following is a profile description of Orangeburg fine sandy loam, 17 to 35 percent slopes, in a wooded area about 8 miles northwest of Banner (NE¼ SE¼ sec. 2, T. 11 S., R. 3 W.).

O1—½ inch, partly decomposed forest litter.
A1—0 to 2 inches, very dark gray (10YR 3/1) fine sandy loam; weak, fine and medium, granular structure; very friable; many fine roots; slightly acid; abrupt, wavy boundary.
A2—2 to 12 inches, yellowish-brown (10YR 5/6) fine sandy loam with some organic stains in root channels; weak, medium, granular structure; very friable; many fine roots; many fine wormholes; strongly acid; clear, wavy boundary.
B21t—12 to 22 inches, dark-red (2.5YR 3/6) sandy clay loam; moderate, medium, subangular blocky structure; friable; few fine roots; strongly acid; gradual, wavy boundary.
B22t—22 to 38 inches, dark-red (10R 3/6) sandy clay loam; weak, medium, subangular blocky structure; friable; few fine roots; strongly acid; gradual, wavy boundary.
B31—38 to 47 inches, dark-red (10R 3/6) sandy loam; weak, medium, subangular blocky structure; very friable; strongly acid.
B32—47 to 60 inches, dark-red (10R 3/6) sandy loam with common, medium, distinct, strong-brown (7.5YR 5/8) mottles; weak, medium, subangular blocky structure; very friable; very strongly acid.

Range in characteristics: The surface layer ranges from gray to very dark gray and from fine sandy loam to loamy sand. The B horizon is dark-red sandy clay loam. The B3 horizon is dark red or dark red with strong-brown mottles and is generally sandy loam but may be loamy sand in some places.

RUSTON SERIES.—Soils of the Ruston series have formed on the uplands in thick beds of Coastal Plain sandy loam and sandy clay loam. These soils are well drained, are on slopes of 8 to 35 percent, and are strongly acid. The following is a profile description of Ruston sandy loam, 12 to 35 percent slopes, in a wooded area 2 miles west of Dentontown (SE¼SE¼ sec. 29, T. 22 N., R. 8 E.).

A0—1 inch of partly decayed leaves, grass, and small twigs.
A1—0 to 4 inches, dark-brown (10YR 4/3) sandy loam; single grain (structureless); very friable; many fine roots; strongly acid; clear, smooth boundary.
A2—4 to 15 inches, yellowish-brown (10YR 5/4) sandy loam; single grain (structureless); very friable; many fine roots; very strongly acid; clear, smooth boundary.
B1—15 to 22 inches, yellowish-red (5YR 5/6) sandy clay loam; weak, medium, subangular blocky structure; friable; few fine roots; strongly acid; clear, smooth boundary.
B2—22 to 35 inches, red (2.5YR 4/6) sandy clay loam; weak, medium, subangular blocky structure; friable; few fine roots; strongly acid; gradual, smooth boundary.
B3—35 to 46 inches, yellowish-red (5YR 4/8) sandy loam; weak, medium, subangular blocky structure; very friable; few fine roots; strongly acid; clear, smooth boundary.
IIC—46 to 60 inches +, yellowish-red (5YR 4/8) sandy loam with thin strata of strong-brown (7.5YR 5/8) sand; (structureless); very friable; very strongly acid.

Range in characteristics: The surface layer ranges from dark brown to yellowish brown and from fine sandy loam to loamy sand. The B horizons range from yellowish red to red (2.5YR 4/6) and from sandy clay loam to clay loam. The C horizon ranges from reddish yellow to yellowish red and from sandy loam to sand.

WILCOX SERIES.—Soils of the Wilcox series have formed in uplands, chiefly in thick beds of acid, heavy clay material over clay shale of the Coastal Plain. These soils are somewhat poorly drained and are on slopes of 2 to 12 percent. The following is a profile description of Wilcox silty clay loam, 2 to 5 percent slopes, eroded, in a pasture about 12 miles east of Bruce (SE¼SW¼ sec. 24, T. 12 S., R. 1 E.).

[5] A symbol in the Munsell color system, which is defined in the Glossary.

Ap—0 to 5 inches, dark yellowish-brown (10YR 4/4) silty clay loam with few, fine, faint yellowish-brown (10YR 5/6) mottles; moderate, fine and medium, subangular blocky structure; friable; few, fine, hard, brown concretions; many fine roots; many fine wormholes; strongly acid; smooth, clear boundary.

B21t—5 to 11 inches, mottled strong-brown (7.5YR 5/8), red (2.5YR 4/6), and pale-brown (10YR 6/3) silty clay; moderate, fine and medium, angular and subangular blocky structure; firm when moist, very plastic and very sticky when wet; few, fine, hard, brown concretions; few fine roots; very strongly acid; clear, wavy boundary.

B22tg—11 to 30 inches, mottled light grayish-brown (10YR 5/2), red (2.5YR 4/6), and yellowish-brown (10YR 5/6) clay; moderate, fine and medium, subangular blocky structure; firm when moist, very plastic and very sticky when wet; few, fine, hard, brown concretions; very strongly acid; gradual, wavy boundary.

Cg—30 to 40 inches +, mottled gray (10YR 6/1), yellowish-brown (10YR 5/8), and red (2.5YR 5/6) clay; massive; extremely firm when moist, very plastic and very sticky when wet; few, fine, hard, brown concretions; very strongly acid.

Range in characteristics: The silty clay loam surface soil is brown to dark yellowish brown. The B horizons are mottled strong brown, red, and pale brown to mottled gray in the lower part. The texture of the B horizons ranges from silty clay to clay. The C horizon is mottled gray, red, and pale-brown clay.

DULAC SERIES.—Soils of the Dulac series have formed on the uplands from a thin mantle of loess over acid Coastal Plain clay. They are moderately well drained and are on slopes of 2 to 12 percent. The following is a profile description of Dulac silt loam, 5 to 8 percent slopes, eroded, in a wooded area about 1 mile south of Sarepta (NE¼ SW¼ sec. 21, T. 11 S., R. 1 W.).

O1—1 to ½ inch, fresh leaves and twigs from hardwoods.

O2—½ inch of partly decomposed leaves and twigs.

A1—0 to 1 inch, dark grayish-brown (10YR 4/2) silt loam; weak, fine, granular structure; very friable; many fine roots; very strongly acid; clear, smooth boundary.

A2—1 to 6 inches, brown (10YR 5/3) silt loam; weak, fine and medium, granular structure; very friable; many fine roots; very strongly acid; clear, smooth boundary.

B21t—6 to 10 inches, strong-brown (7.5YR 5/6) silty clay loam; moderate, fine and medium, subangular blocky structure; friable; many fine roots; strongly acid; clear, smooth boundary.

B22t—10 to 18 inches, strong-brown (7.5YR 5/6) silty clay loam; moderate, medium, subangular blocky structure; friable; many fine roots; very strongly acid; gradual, smooth boundary.

B23tx—18 to 25 inches, strong-brown (7.5YR 5/6) heavy silt loam with few, fine, faint, yellowish-brown (10YR 5/6) and light yellowish-brown (10YR 6/4) mottles; moderate, fine and medium, subangular blocky structure; slightly sticky when wet; compact when moist; brittle; strongly acid; gradual, irregular boundary.

B24tx—25 to 38 inches, mottled yellowish-brown (10YR 5/6) and pale-brown (10YR 6/3) silty clay loam; moderate, fine and medium, subangular blocky structure; firm and compact when moist; brittle; common fine voids; strongly acid; abrupt, smooth boundary.

IIB25t—38 to 50 inches, red (2.5YR 4/8) clay with common, fine, prominent, pale-brown (10YR 6/3) mottles; moderate, fine and medium, angular blocky structure; firm when moist, plastic and sticky when wet; medium acid; gradual, wavy boundary.

IIB26t—50 to 60 inches +, red (2.5YR 4/6) clay with many, distinct, yellowish-brown (10YR 5/6) mottles; moderate, fine and medium, angular blocky structure; firm when moist, plastic and sticky when wet; strongly acid.

Range in characteristics: The surface layer ranges from dark grayish brown to dark brown. The subsoil is silt loam or silty clay loam that ranges from strong brown to yellowish brown or yellowish red. The fragipan is at a depth of 22 to 26 inches and is underlain by gray or mottled gray and red, fine-textured material.

FREELAND SERIES.—Soils of the Freeland series have formed on the stream terraces in a thin mantle of loess over sandy Coastal Plain material. These soils are on slopes of 2 to 8 percent, are moderately well drained, and are strongly acid. The following is a profile description of Freeland silt loam, 2 to 5 percent slopes, eroded, in an idle field 3 miles west of Dentontown (SW¼NE¼ sec. 30, T. 22 N., R. 8 E.).

Ap—0 to 5 inches, dark-brown (10YR 4/3) silt loam; weak, fine, granular structure; friable; many fine roots; medium acid; clear, smooth boundary.

B21t—5 to 14 inches, dark-brown (7.5YR 4/4) light silty clay loam; moderate, fine and medium, subangular blocky structure; friable to firm; patchy, thin clay skins on faces of peds; many fine roots; few, fine, black concretions; medium acid; clear, smooth boundary.

B22t—14 to 25 inches, dark-brown (7.5YR 4/4) heavy silt loam with common, fine, faint, yellowish-brown (10YR 5/4) mottles; moderate, medium and coarse, subangular blocky structure; friable; few, fine, black concretions; strongly acid; abrupt, smooth boundary.

IIB23tx and A'2x—25 to 35 inches, mottled dark yellowish-brown (10YR 4/4) and pale-brown (10YR 6/3) loam; moderate, medium and coarse, subangular blocky structure; firm and compact when moist; brittle; few fine voids; few, fine, black concretions; very strongly acid; gradual, wavy boundary.

IB'24tx—35 to 44 inches, dark-brown (7.5YR 4/4) fine sandy loam with many, medium, faint, yellowish-brown (10YR 5/4) and many, medium, distinct, pale-brown (10YR 6/3) mottles; moderate, coarse, subangular blocky structure; firm and compact when moist; brittle; common fine voids; gray coatings in cracks and on ped faces; few, fine, black concretions; very strongly acid; gradual, wavy boundary.

IIC—44 to 60 inches +, yellowish-brown (10YR 5/8) fine sandy loam with many, coarse, distinct, pale-brown (10YR 6/3) mottles; structureless; friable to firm; few fine voids; strongly acid.

Range in characteristics: The silt loam surface layer ranges from dark grayish-brown to dark brown. The subsoil is dark-brown to yellowish-brown silt loam or silty clay loam. The fragipan is mottled silt loam, loam, or fine sandy loam and is at a depth of 18 to 25 inches. The C horizon is brown or yellowish-brown loam, sandy loam, or sandy clay loam with gray or pale-brown mottles.

PROVIDENCE SERIES.—Soils of the Providence series have formed on the uplands in a thin mantle of loess over friable, Coastal Plain material. These soils are on slopes of 2 to 12 percent, are moderately well drained, and are strongly acid. The following is a profile description of Providence silt loam, 5 to 8 percent slopes, eroded, in a wooded area 3½ miles southeast of Pittsboro (NW¼SW¼ sec. 23, T. 13 S., R. 1 W.).

Ap—0 to 5 inches, mixed dark-brown (10YR 4/3) and yellowish-brown (10YR 5/8) silt loam; weak, fine, granular structure; very friable; many fine roots; medium acid; clear, smooth boundary.

B21t—5 to 18 inches, yellowish-red (5YR 4/6) silty clay loam; some peds are coated with pale-brown (10YR 6/3) silt; moderate, fine and medium, subangular blocky structure; friable; common fine and medium roots; strongly acid; clear, smooth boundary.

B22t—18 to 22 inches, strong-brown (7.5YR 5/8) silt loam with common, fine, faint, yellowish-brown (10YR 5/6) mottles; moderate, medium and coarse, subangular blocky structure; friable; few, medium, manganese coatings; strongly acid; clear, smooth boundary.

B23tx and A'2x—22 to 29 inches, yellowish-brown (10YR 5/6) silt loam with many, coarse, distinct, dark-brown (7.5YR 4/4) and common, medium, distinct, pale-brown (10YR 6/3) mottles; moderate, medium and coarse, subangular blocky structure; firm and compact when moist; brittle; few, medium, manganese splotches in lower part; strongly acid; clear, smooth boundary.

IIB24tx—29 to 40 inches, mottled yellowish-brown (10YR 5/8); light yellowish-brown (10YR 6/4), and pale-brown (10YR 6/3) fine sandy loam; moderate, medium and coarse, subangular blocky structure; firm and compact when moist; brittle; few brown concretions; strongly acid; clear, smooth boundary.

IIC—40 to 56 inches +, mottled yellowish-red (5YR 4/6); yellowish-brown (10YR 5/6) and yellow (10YR 7/6) fine sandy loam; single grain (structureless); friable; few, fine, brown concretions; strongly acid.

Range in characteristics: The silt loam surface layer ranges from dark grayish brown to dark brown. The subsoil is silt loam or silty clay loam that is strong brown to yellowish red. The fragipan is at a depth of 22 to 26 inches and is silt loam to fine sandy loam. The C horizon is fine sandy loam, loamy sand, or sandy clay loam. In some places the C horizon is composed of thinly stratified beds of coarse- or fine-textured material.

FALKNER SERIES.—Soils of the Falkner series have formed on uplands from a thin mantle of loess over fine-textured Coastal Plain material. The soils are somewhat poorly drained and strongly acid. They occupy slopes of 2 to 8 percent. The following is a profile description of Falkner silt loam, 2 to 5 percent slopes, in a field of young pine trees, about 6 miles north of Vardaman (NE¼NE¼ sec. 11, T. 13 S., R. 1 E.).

Ap—0 to 7 inches, dark yellowish-brown (10YR 4/4) silt loam; weak, medium to coarse, granular structure; very friable; many fine roots; very strongly acid; abrupt, smooth boundary.

B21—7 to 14 inches, yellowish-brown (10YR 5/4) silty clay loam with many, fine and medium, distinct, pale-brown (10YR 6/3) and strong-brown (7.5YR 5/6) mottles; weak, fine and medium, subangular blocky structure; friable; few fine roots; very strongly acid; clear, wavy boundary.

B22—14 to 22 inches, mottled yellowish-brown (10YR 5/6), gray (10YR 6/1), and pale-brown (10YR 6/3) silty clay loam; moderate, fine and medium, subangular blocky structure; friable; few fine roots; few, fine, hard, brown concretions; strongly acid.

IIB23tg—22 to 31 inches, mottled gray (10YR 6/1); yellowish-brown (10YR 5/6) and red (2.5YR 4/6) silty clay; moderate, medium, angular and subangular blocky structure; firm when moist, plastic and sticky when wet; few fine roots; very strongly acid; gradual, wavy boundary.

IICg—31 to 45 inches +, gray (10YR 6/1) clay with many, fine and medium, strong-brown (7.5YR 5/6) mottles; massive; very firm when moist, very plastic and very sticky when wet; strongly acid.

Range in characteristics: The silt loam surface layer is dark grayish brown to dark yellowish brown. The silty clay loam B horizon is yellowish brown to brownish yellow and has pale-brown or gray mottles in the lower part. This horizon is 13 to 18 inches thick. Depth to the finer textured material ranges from 18 to 24 inches. The C horizon is gray or mottled gray, brown, and red clay.

Intrazonal order

The soils of the intrazonal order have fairly well developed characteristics that reflect the dominant influence of a local factor, such as relief or parent material, over the influence of climate and vegetation. In Calhoun County the intrazonal order consists of the Planosol and Low-Humic Gley great soil groups.

PLANOSOLS

Planosols have an eluviated surface horizon, underlain by a B horizon that is more strongly illuviated, cemented, or compact than the B horizon in associated, normal soils. They have developed on nearly flat uplands, under grass or forest, in a humid or subhumid climate (*10*) and have been affected by podzolization and gleization. Their characteristic, well-defined layer of clay or cemented material has accumulated at a varying depth in nearly level to gently sloping areas where drainage is restricted. In the Planosols of Calhoun County, this layer is a fragipan, which is a compact horizon, rich in silt, sand, or both, and generally relatively low in content of clay (*10*). In soils of this county, the fragipan is generally silt loam or silty clay loam. It is stronger in some soils than in others, and restricts the movement of water through the profile.

Soils of the Almo, Bude, Hatchie, and Henry series are Planosols with a fragipan.

ALMO SERIES.—Soils of the Almo series have formed on stream terraces from silty loess and sandy Coastal Plain material. The soils are poorly drained and strongly acid. They occupy slopes of 0 to 2 percent. The following is a profile description of Almo silt loam in a cottonfield 4 miles south of Calhoun City (SW¼SW¼ sec. 1, T. 22 N., R. 9 E.).

Ap—0 to 8 inches, dark-brown (10YR 4/3) silt loam with few, fine, distinct, gray (10YR 6/1) mottles; weak, fine, granular structure; friable; many fine roots; few, fine, black and brown concretions; strongly acid; clear, wavy boundary.

Ag and Bg—8 to 15 inches, gray (10YR 6/1) heavy silt loam with many, fine and medium, distinct, yellowish-brown (10YR 5/6) and strong-brown (7.5YR 5/6) mottles; weak, fine and medium, subangular blocky structure; friable; few fine roots; few to common black and brown concretions; very strongly acid; clear, wavy boundary.

A'2xg—15 to 21 inches, gray (10YR 6/1) silt loam with many, fine and medium, distinct, yellowish-brown (10YR 5/6) and brown (10YR 5/3) mottles; weak, fine and medium, subangular blocky structure; firm and compact when moist; brittle; many, fine vesicular pores; few fine roots; few, fine, black and brown concretions; very strongly acid; abrupt, smooth boundary.

B'21txg—21 to 31 inches, gray (10YR 6/1) silty clay loam with common, fine, distinct, yellowish-brown (10YR 5/6) mottles and common, fine, faint, pale-brown (10YR 6/3) mottles; moderate, medium, and coarse, subangular blocky structure; firm and compact when moist, plastic and sticky when wet; patchy clay skins on face of peds; few, fine, black and brown concretions; very strongly acid; clear, wavy boundary.

B'22txg—31 to 40 inches, mottled gray (10YR 6/1), yellowish-brown (10YR 5/6), and brown (10YR 5/3) silty clay loam; moderate, medium and coarse, subangular blocky structure; firm when moist, plastic and sticky when wet; patchy clay skins on face of peds; strongly acid; gradual, wavy boundary.

IICg—40 to 64 inches, mottled gray (10YR 6/1), yellowish-brown (10YR 5/6), and dark yellowish-brown (10YR 4/4) loam or clay loam; pockets of sandy material; weak, medium, subangular blocky structure; friable when moist, slightly plastic and slightly sticky when wet; few, fine, black concretions; strongly acid.

Range in characteristics: The surface layer ranges from dark brown to dark grayish brown. The subsoil ranges from solid gray to mottled gray and yellowish brown, and it is silt loam or silty clay loam. Lenses or pockets of silt occur in the lower part of the B horizon and in the fragipan layer. The fragipan layer ranges from silty clay loam to fine sandy loam. Depth to the fragipan ranges from 14 to 18 inches.

BUDE SERIES.—Soils of the Bude series have formed on uplands in a thin mantle of loess over acid, fine-textured Coastal Plain material. The soils are somewhat poorly drained and very strongly acid. They are on slopes of 2 to 8 percent. The following is a profile description of Bude silt loam, 2 to 5 percent slopes, in a cottonfield about 2 miles north of Vardaman (SW¼SW¼ sec. 35, T. 13 S., R. 1 E.).

Ap—0 to 7 inches, dark-brown (10YR 4/3) silt loam; weak, fine, granular structure; friable; many fine roots; many, fine, black and brown concretions; medium acid; clear, wavy boundary.

B1—7 to 11 inches, yellowish-brown (10YR 5/6) silt loam; weak, fine, subangular blocky structure; friable; many fine roots; few, fine, black and brown concretions; very strongly acid; clear, wavy boundary.

B2—11 to 16 inches, yellowish-brown (10YR 5/6), heavy silt loam with few, fine, faint, pale-brown (10YR 6/3) and strong-brown (7.5YR 5/6) mottles; moderate, medium, subangular blocky structure; friable; few, fine, black and brown concretions; very strongly acid; gradual, wavy boundary.

A'2x and B'22tx—16 to 21 inches, mottled yellowish-brown (10YR 5/6), strong-brown (7.5YR 5/6), and pale-brown (10YR 6/3), light silty clay loam; moderate, medium, subangular blocky structure; firm to friable; compact; brittle; very strongly acid; gradual, wavy boundary.

B'23xtg—21 to 30 inches, mottled gray (10YR 6/1), yellowish-brown (10YR 5/6), and pale-brown (10YR 6/3), light silty clay loam; moderate, fine and medium, subangular blocky structure; firm to friable; compact; brittle; strongly acid; clear, wavy boundary.

B'24xtg—30 to 35 inches, mottled gray (10YR 6/1) and yellowish-brown (10YR 5/6) silty clay loam with gray silt coatings on face of peds; moderate, fine and medium, subangular blocky structure; firm; compact; brittle; strongly acid; clear, wavy boundary.

IICg—35 to 60 inches, mottled gray (10YR 6/1) and yellowish-brown (10YR 5/6), heavy silty clay loam; massive; very firm when moist; plastic and sticky when wet; few, fine, black concretions; strongly acid.

Range in characteristics: The subsoil ranges from yellowish brown to mottled yellowish brown, pale brown, or gray. The texture of the B horizon is silt loam or silty clay loam. Depth to the fragipan ranges from 15 to 20 inches. The fragipan layer ranges from a silt loam to fine sandy loam.

HATCHIE SERIES.—Soils of the Hatchie series have formed on the stream terraces in a thin mantle of loess over Coastal Plain material. These soils are on slopes of 0 to 5 percent, are somewhat poorly drained, and are strongly acid. The following is a profile description of Hatchie silt loam, 0 to 2 percent slopes, in a cottonfield about 6.5 miles southwest of Calhoun City (NW¼SW¼ sec. 16, T. 22 N., R. 9 E.).

Ap—0 to 7 inches, brown (10YR 5/3) silt loam; weak, fine and medium, granular structure; friable; many fine roots; few, fine, yellowish-brown and black concretions; strongly acid; abrupt, smooth boundary.

B21—7 to 11 inches, yellowish-brown (10YR 5/6), heavy silt loam; weak, fine and medium, subangular blocky to structureless; friable; few fine roots; few, fine, yellowish-brown and black concretions; strongly acid; gradual, wavy boundary.

B22—11 to 17 inches, mottled yellowish-brown (10YR 5/6) and light brownish-gray (10YR 6/2), heavy silt loam; weak, medium, subangular blocky structure; friable; few, fine, yellowish-brown and black concretions; strongly acid; abrupt, smooth boundary.

A'2xg and B'23xg—17 to 22 inches, mottled gray (10YR 6/1); yellowish-brown (10YR 5/8) and light yellowish-brown (10YR 6/4), heavy silt loam; moderate, fine and medium, subangular blocky structure; firm and compact when moist; hard and brittle when dry; gray coatings on face of peds; few, fine, brown concretions; strongly acid; gradual, wavy boundary.

B'24xtg—22 to 41 inches, mottled gray (10YR 6/1), yellowish-brown (10YR 5/6), and light yellowish-brown (10YR 6/4) silty clay loam; moderate, medium, angular and subangular blocky structure; firm; compact; vertical tongues of gray silty clay; strongly acid; gradual, wavy boundary.

IIB'25tg—41 to 60 inches +, mottled gray (10YR 6/1), light yellowish-brown (10YR 6/4), and yellowish-brown (10YR 5/6) clay loam; high sand content that increases with depth; weak, fine and medium, subangular blocky structure; firm when moist; slightly plastic and slightly sticky when wet; few, fine, black concretions; very strongly acid.

Range in characteristics: The silt loam surface layer ranges from dark grayish brown to brown. The B horizon is yellowish-brown to mottled yellowish-brown and gray silt loam or silty clay loam. Depth from the surface to the fragipan ranges from 16 to 20 inches. The fragipan is mottled gray, yellowish-brown, or pale-brown silt loam, silty clay loam, loam, or fine sandy loam. The IIBg horizon is mottled gray and yellowish-brown or gray loam, fine sandy loam, clay loam, or silty clay loam.

HENRY SERIES.—Soils of the Henry series have formed on uplands in loessal material. These soils are on slopes of 0 to 2 percent, are poorly drained, and are strongly acid. The following is a profile description of Henry silt loam, in a hayfield one-half mile northeast of Vardaman (SE¼SW¼ sec. 2, T. 14 S., R. 1 E.).

Ap—0 to 6 inches, brown (10YR 5/3) silt loam with few, fine, distinct, light-gray (10YR 7/1) mottles; weak, medium and coarse, granular structure; friable; many fine roots; common, fine, black and brown concretions; strongly acid; abrupt, smooth boundary.

A21g—6 to 10 inches, gray (10YR 6/1) silt loam with many, fine, distinct, yellowish-brown (10YR 5/6) and brown (10YR 5/3) mottles; weak, fine and medium, subangular blocky structure; friable; many fine roots; many fine, brown and black concretions; strongly acid; clear, wavy boundary.

A22g and Bg—10 to 17 inches, gray (10YR 6/1), heavy silt loam with many, fine, distinct, yellowish-brown (10YR 5/6) and brown (10YR 5/3) mottles; moderate, fine and medium, subangular blocky structure; friable; many fine roots; few, fine, black and brown concretions; strongly acid; clear, wavy boundary.

A'21gx—17 to 27 inches, mottled gray (10YR 6/1) and pale-brown (10YR 6/3) silt loam with few, fine, distinct yellowish-brown (10YR 5/6) mottles; weak, fine, subangular blocky structure; friable when moist; compact and brittle when dry; few fine roots in upper part; many, fine, brown and black concretions; very strongly acid; gradual, wavy boundary.

B'21gtx—27 to 42 inches, gray (10YR 6/1) silt loam with common, medium, distinct, light olive-brown (2.5Y 5/4) mottles; weak, fine and medium, subangular blocky structure; friable when moist; compact and brittle when dry; few yellowish-brown concretions; few clay films on face of peds; strongly acid; gradual, wavy boundary.

B'22gtx—42 to 54 inches +, mottled gray (10YR 6/1), yellowish-brown (10YR 5/8), and dark yellowish-brown (10YR 4/4) silty clay loam; weak, fine and medium, subangular blocky structure; friable; few, fine, black concretions; very strongly acid.

Range in characteristics: The silt loam surface layer ranges from dark grayish brown to brown. The B horizon is silt loam or silty clay loam and ranges from gray to mottled gray, yellowish brown, and brown. Depth from the surface to the silt loam or silty clay loam fragipan ranges from 14 to 20 inches. The fragipan ranges from mottled gray to gray with pale-brown and yellowish-brown mottles. The C horizon is generally silt loam or silty clay loam, but it may be silty clay in a few places.

LOW-HUMIC GLEY SOILS

Low-Humic Gley soils are an imperfectly to poorly drained group of intrazonal soils that have thin surface horizons, moderately high in organic matter, over mottled gray and brown, gleylike, mineral horizons with a low degree of textural differentiation (*10*). These soils developed through the process of gleization.

The members of the Low-Humic Gley great soil group in Calhoun County are the Chastain, Mayhew, Tickfaw, and Waverly series.

CHASTAIN SERIES.—Soils of the Chastain series occur on bottoms or flood plains. They have formed in sediments washed from thin loess soils and from soils derived chiefly from thick beds of acid, heavy clay materials. Chastain soils are poorly drained and strongly acid. They are on slopes of 0 to 2 percent. The following is a profile description of Chastain silty clay loam in an idle field 3 miles west of Pittsboro (NW¼NE¼ sec. 15, T. 13 S., R. 2 W.).

Ap—0 to 7 inches, mottled light brownish-gray (10YR 6/2), brown (10YR 5/3), and yellowish-brown (10YR 5/8) silty clay loam; weak, coarse, granular structure; friable when moist, sticky and plastic when wet; many fine roots; few, fine, black concretions; strongly acid; clear, smooth boundary.

C1g—7 to 17 inches, gray (10YR 6/1) silty clay loam with many, fine, distinct, brown (10YR 5/3) and yellowish-brown (10YR 5/8) mottles; massive (structureless); friable when moist, sticky and plastic when wet; few fine roots; many, fine, black and brown concretions; strongly acid; gradual, wavy boundary.

C2g—17 to 32 inches, gray (5Y 5/1) silty clay with common, fine, distinct, yellowish-brown (10YR 5/8) mottles; massive (structureless); firm when moist, sticky and plastic when wet; few fine roots; common, fine, black and brown concretions; strongly acid, clear, smooth boundary.

C3g—32 to 50 inches +, gray (5Y 5/1), heavy silty clay or clay with many, fine and medium, distinct, yellowish-brown (10YR 5/8) mottles; massive (structureless); very firm when moist, very sticky and very plastic when wet; common, fine, black and brown concretions; strongly acid.

The following is a profile description of Chastain silt loam, in a pasture 2½ miles north of Vardaman (NW¼ SW¼ sec. 27, T. 13 S., R. 1 E.).

Apg—0 to 8 inches, mottled grayish-brown (10YR 5/2), brown (10YR 5/3), and yellowish-brown (10YR 5/8) silt loam; weak, fine, granular structure; very friable; many fine roots; few, fine, black concretions; strongly acid; clear, wavy boundary.

C1g—8 to 17 inches, light brownish-gray (10YR 6/2) silty clay loam with many, medium, faint, pale-brown (10YR 6/3) mottles and few, fine, distinct, yellowish-brown (10YR 5/8) mottles; massive; friable; many fine roots; few, fine, black concretions; strongly acid; gradual, wavy boundary.

C2g—17 to 34 inches, light brownish-gray (10YR 6/2) silty clay with many, fine and medium, distinct, yellowish-brown (10YR 5/8) and faint, grayish-brown (10YR 5/2) mottles; massive (structureless); firm when moist, plastic and sticky when wet; few fine roots; few, fine, black and brown concretions; strongly acid; gradual, wavy boundary.

C3g—34 to 60 inches +, gray (10YR 6/1) silty clay with many, coarse, distinct, yellowish-brown (10YR 5/8) mottles; massive (structureless); very firm when moist, very plastic and very sticky when wet; few, common, fine, black and brown concretions; strongly acid.

Range in characteristics: The surface texture is silt loam or silty clay loam and ranges from mottled light brownish gray to grayish brown. The upper subsoil is gray or light brownish-gray silty clay loam. Depth from the surface to the silty clay generally ranges from 16 to 20 inches, but in a few places the clay is deeper.

MAYHEW SERIES.—Soils of the Mayhew series have formed on uplands in clay loam and clay material over clay shale of the Coastal Plain. These soils are on slopes of 0 to 2 percent, are poorly drained, and are strongly acid. The following is a profile description of Mayhew silty clay loam in a sweetpotato field about 4 miles northeast of Vardaman (SW¼NE¼ sec. 36, T. 13 S., R. 1 E.).

Ap—0 to 4 inches, dark-brown (10YR 4/3) silty clay loam; moderate, fine, granular structure and weak, medium, subangular blocky structure; friable; many fine roots; strongly acid; abrupt, smooth boundary.

Bg—4 to 32 inches, gray (10YR 6/1) clay with common, medium, distinct, yellowish-brown (10YR 5/8) mottles and few, fine, faint, pale-brown (10YR 6/3) mottles; moderate, fine and medium, subangular blocky structure; very firm when moist, very plastic and very sticky when wet; few, fine, black and brown concretions; strongly acid; gradual, wavy boundary.

C1g—32 to 47 inches, gray (5Y 6/1) clay with many, fine, distinct, yellowish-brown (10YR 5/8) mottles; massive (structureless); very firm when moist, very plastic and very sticky when wet; few, fine, black and brown concretions; strongly acid; gradual, wavy boundary.

C2g 47 to 60 inches +, mottled light olive-brown (2.5Y 5/4), gray (5Y 6/1) and yellowish-brown (10YR 5/8) clay; massive (structureless): very firm when moist, very plastic and very sticky when wet; few, fine, black concretions; strongly acid.

Range in characteristics: The silty clay loam surface layer ranges from grayish brown to dark brown. The subsoil is mottled gray and yellowish-brown or solid gray silty clay loam, silty clay, or clay. Concretions are on the surface and throughout the profile.

TICKFAW SERIES.—Soils of the Tickfaw series have formed on uplands in a thin mantle of loess over acid, heavy Coastal Plain clay. These soils are poorly drained and strongly acid. They are on slopes of 0 to 2 percent. The following is a profile description of Tickfaw silt loam, in an idle field about 11 miles northeast of Bruce (SW¼NE¼ sec. 3, T. 12 S., R. 1 E.).

Ap—0 to 6 inches, dark-brown (10YR 4/3) silt loam; weak, fine and medium, granular structure; very friable; many fine roots; few, fine, black concretions; strongly acid; clear, smooth boundary.

Bg and Ag—6 to 16 inches, light brownish-gray (10YR 6/2), light silty clay loam with many, fine and medium, distinct, yellowish-brown (10YR 5/8) and faint, brown (10YR 5/3) mottles; some material from above horizon in root channels; moderate, medium, subangular blocky structure; friable; few fine roots; few, fine, brown, hard concretions; strongly acid; gradual, wavy boundary.

IIB21g—16 to 29 inches, gray (10YR 6/1) heavy silty clay loam with many, fine and medium, distinct, yellowish-brown (10YR 5/8) mottles; moderate, medium, subangular blocky structure; firm when moist, plastic and sticky when wet; few, fine, brown, hard concretions; strongly acid; clear, wavy boundary.

IIB22g—29 to 48 inches +, gray (10YR 6/1), heavy silty clay loam to silty clay with many, fine and medium, yellowish-brown (10YR 5/8) mottles and common, fine, faint, pale-brown (10YR 6/3) mottles; moderate, medium, subangular blocky structure; firm when moist, plastic and sticky when wet; few, fine, brown, hard concretions; strongly acid.

Range in characteristics: The silt loam surface layer ranges from dark grayish brown to dark brown. The B horizon is silt loam or silty clay loam and ranges from gray with yellowish-brown mottles to mottled gray and yellow. Depth from the surface to the finer textured material ranges from 12 to 16 inches. The IIBg horizons are gray with yellowish-brown mottles or mottled gray, yellowish-brown, and pale-brown silty clay loam to silty clay.

WAVERLY SERIES.—Soils of the Waverly series occur on bottoms or flood plains. They have formed in sediments washed from loessal uplands. These soils are poorly drained and strongly acid and are on slopes of 0 to 2 percent. The following is a profile description of Waverly silt loam in a wooded area ¾ mile southeast of Calhoun City (NE¼SE¼ sec. 24, T. 23 N., R. 9 E.).

Apg—0 to 6 inches, mottled light brownish-gray (10YR 6/2) and dark grayish-brown (10YR 4/2) silt loam; weak, fine, granular structure; friable when moist, slightly sticky when wet; many fine roots; few, fine, black and brown concretions; strongly acid; clear, smooth boundary.

C1g—6 to 17 inches, light brownish-gray (10YR 6/2) silt loam with many, fine and medium, distinct, dark grayish-brown (10YR 4/2) mottles; massive (structureless); friable when moist, slightly sticky when wet; few fine and medium roots; few, fine, black and brown concretions; very strongly acid; gradual, wavy boundary.

C2g—17 to 35 inches, light brownish-gray (10YR 6/2), heavy silt loam with many, fine and medium, distinct, yellowish-brown (10YR 5/6) mottles; massive (structureless); friable when moist, slightly sticky and slightly plastic when wet; few fine roots; few, fine, black and brown concretions; very strongly acid; gradual, wavy boundary.

C3g—35 to 50 inches +, light brownish-gray (10YR 6/2), light silty clay loam with many, fine, distinct yellowish-brown (10YR 5/6) mottles; massive (structureless); friable when moist, slightly sticky and slightly plastic when wet; few fine roots; few, fine, black and brown concretions; very strongly acid.

Range in characteristics: The surface texture is silt loam and the subsoil is silt loam or light silty clay loam. The surface layer is dark grayish brown, gray, or mottled gray. The solid gray or mottled gray occurs at a depth of 0 to 6 inches and extends throughout the profile.

Azonal order

Soils of the Azonal order lack distinct profile characteristics, generally because of youth, resistant parent material, or steep topography.

In Calhoun County, the great soil groups in the Azonal order are the Regosols and the Alluvial soils.

REGOSOLS

Regosols consist of deep, unconsolidated rock (soft mineral deposits) in which few or no clearly expressed soil characteristics have developed. They are largely confined to recent sand dunes and to loess and glacial drift of steeply sloping areas (*8*).

In Calhoun County the Eustis series is the only member of the Regosol great soil group.

EUSTIS SERIES.—Soils of the Eustis series have formed on uplands in coarse-textured sediments of the Coastal Plain. These soils are on slopes of 17 to 35 percent, are excessively drained, and are medium to strongly acid. The following is a profile description of Eustis loamy sand, 17 to 35 percent slopes, in an idle field about 6 miles northwest of Banner (NW¼NW¼ sec. 6, T. 11 S., R. 2 W.).

Ap—0 to 9 inches, dark-brown (7.5YR 3/2) loamy sand; weak, fine, granular structure; very friable; many fine roots; medium acid; clear, smooth boundary.

C1—9 to 26 inches, dark-brown (7.5YR 4/4) loamy sand; single grain (structureless); loose; many fine roots; medium acid; gradual, wavy boundary.

C2—26 to 57 inches, reddish-yellow (7.5YR 6/6) sand; single grain (structureless); loose; few fine roots in upper part; medium acid; gradual, wavy boundary.

C3—57 to 75 inches +, yellowish-red (5YR 4/6) sandy loam; weak, fine and medium, subangular blocky structure; very friable; strongly acid.

Range in characteristics: The surface texture ranges from loamy sand to sand and from very dark grayish brown to dark brown. The C horizon ranges from strong brown to yellowish red and from coarse sandy loam to sand.

ALLUVIAL SOILS

Alluvial soils developed from transported and recently deposited material (alluvium) that is characterized by a weak modification (or none) of the original material by soil-forming processes.

The Collins series is representative of the Alluvial soils in Calhoun County. Falaya and Urbo soils are Alluvial soils that intergrade toward Low-Humic Gley soils.

COLLINS SERIES.—Soils of the Collins series are on bottoms or flood plains. They have formed in silty alluvium that washed from loess. These soils are moderately well drained and strongly acid, and their slopes range from 0 to 3 percent. The following is a profile description of Collins silt loam in a pasture about 6 miles south of Calhoun City (SE¼SW¼ sec. 22, T. 22 N., R. 9 E.).

Ap1—0 to 3 inches, dark-brown (10YR 4/3) silt loam with few, fine, faint, pale-brown (10YR 6/3) coatings; weak, fine, granular structure; friable; many fine roots; medium acid; abrupt, wavy boundary.

Ap2—3 to 8 inches, dark yellowish-brown (10YR 4/4) silt loam; weak, fine, granular structure; friable; many fine roots; strongly acid; abrupt, wavy boundary.

C1—8 to 19 inches, dark-brown (10YR 4/3) silt loam; structureless; friable; many fine roots; strongly acid; gradual, wavy boundary.

C2—19 to 32 inches, dark-brown (10YR 4/3) silt loam with many, fine, distinct, light brownish-gray (2.5Y 6/2) mottles; massive (structureless); friable; few fine roots; strongly acid; gradual, wavy boundary.

C3g—32 to 48 inches +, mottled light brownish-gray (10YR 6/2), yellowish-brown (10YR 5/6), and dark yellowish-brown (10YR 4/4) silt loam; massive (structureless); friable; common, fine, black concretions; strongly acid.

Range in characteristics: The surface layer ranges from dark brown to yellowish brown. The subsoil is silt loam or silty clay loam and is free of mottles to a depth of 16 to 20 inches below the surface. A few small areas are free of mottles to a depth of 25 inches. The subsoil ranges from dark brown to dark yellowish brown.

FALAYA SERIES.—Soils of the Falaya series are on bottoms or flood plains. They have formed in silty alluvium that washed from loess. These soils are somewhat poorly drained and strongly acid, and their slopes range from 0 to 3 percent. The following is a profile description of Falaya silt loam in a cornfield about 5 miles northwest of Bruce (SE¼SE¼ sec. 20, T. 12 S., R. 2 W.).

Ap—0 to 7 inches, dark-brown (10YR 4/3) silt loam with a few, faint, pale-brown (10YR 6/3) mottles; weak, fine, granular structure; friable; many fine roots; strongly acid; abrupt, smooth boundary.

AC—7 to 11 inches, dark yellowish-brown (10YR 4/4) silt loam with common, fine, faint, pale-brown (10YR 6/3) and few, fine, distinct, gray (10YR 6/1) mottles; weak, medium, granular structure; friable; many fine roots; few, fine, vesicular pores; strongly acid; clear, smooth boundary.

C1g—11 to 25 inches, mottled light brownish-gray (10YR 6/2), dark-brown (10YR 4/3), and pale-brown (10YR 6/3) silt loam; weak, fine, granular structure; friable; few fine roots; few, fine, black and brown concretions; few fine vesicular pores; strongly acid; gradual, wavy boundary.

C2g—25 to 60 inches, mottled gray (10YR 6/1), pale-brown (10YR 6/3), and yellowish-brown (10YR 5/6) silt loam; massive (structureless); friable; common, fine, black and brown concretions; strongly acid.

Range in characteristics: The silt loam surface layer ranges from dark brown to grayish brown. The upper C horizon ranges from brown to dark yellowish brown with pale brown or gray mottling. Depth from the surface to the gray or mottled gray horizon ranges from 6 to 16 inches. Texture of the C horizon is silt loam or silty clay loam.

URBO SERIES.—Soils of the Urbo series are on bottoms or flood plains. They have formed in sediments washed from thin loess soils and soils derived chiefly from thick beds of acid heavy clay materials. The soils are somewhat poorly drained and strongly acid. They are on slopes of 0 to 3 percent. The following is a profile description of Urbo silty clay loam in an idle field about 3 miles east of Bruce (SW¼NE¼ sec. 33, T. 12 S., R. 1 W.).

Ap—0 to 6 inches, dark-brown (10YR 4/3) silty clay loam; weak, fine, granular structure; friable when moist, slightly plastic and sticky when wet; many fine roots; strongly acid; clear, smooth boundary.

AC—6 to 16 inches, brown (10YR 5/3) silty clay loam with many, medium and coarse, faint, light brownish-gray (10YR 6/2) mottles; massive (structureless); friable when moist, plastic and sticky when wet; common fine roots; common, fine, black and brown concretions; strongly acid; gradual, smooth boundary.

C1g—16 to 23 inches, mottled light brownish-gray (10YR 6/2) and dark grayish-brown (10YR 4/2) silty clay; massive (structureless); firm when moist, plastic and sticky when wet; few fine roots; common, fine, black concretions; strongly acid; gradual, wavy boundary.

C2g—23 to 28 inches, light brownish-gray (10YR 6/2) silty clay with common, medium, distinct, dark grayish-brown (10YR 4/2) mottles; massive (structureless); firm when moist, plastic and sticky when wet; many, fine, black concretions; strongly acid; gradual, wavy boundary.

C3g—28 to 48 inches +, gray (10YR 6/1) clay with common, medium, distinct, yellowish-brown (10YR 5/8) mottles; massive (structureless); firm when moist, plastic and sticky when wet; few, fine and medium, black concretions; strongly acid.

Range in characteristics: The silty clay loam surface layer ranges from dark brown to dark grayish brown. The upper C horizon ranges from silt loam to silty clay loam and from brown to dark yellowish brown or mottled gray. Depth from the surface to the gray or mottled gray horizon ranges from 6 to 16 inches. Depth to the silty clay or clay generally is 16 to 18 inches, but in a few places the clay is deeper.

General Nature of the County

This section was prepared for those seeking additional information about the county. It discusses early history and growth; geology, physiography, relief, and drainage; trends in agriculture; and other subjects of general interest.

Early History and Growth

Calhoun County was created by an act of the State legislature on March 8, 1852, during the administration of Governor Henry S. Foote. It was named in honor of John C. Calhoun. The territory, an area of 592 square miles, was originally part of old Yalobusha, Chickasaw, and Lafayette Counties, which had been organized from land acquired from the Chickasaw and Choctaw Indians. The boundaries have not been changed since the county was established (*4*).

Hartford, which is now the Old Town community, was the first county seat. It was the head of navigation on the Loosa Scoona (Skuna) River, from which many keel boats bore hundreds of bales of cotton to New Orleans. Hartford remained the county seat until the county became fully organized and Orrsville was made the new county seat. The name Orrsville was subsequently changed to Pittsboro, which is the present county seat.

At the time it was formed, Calhoun County had a population of about 9,000. During the first 24 years, the population increased rapidly (*7*). In 1960, it was 15,941. The larger towns are Calhoun City (population 1,714) and Bruce (population 1,698). Smaller towns and communities include Vardaman, Derma, Pittsboro, Slate Springs, and Big Creek.

Geology, Physiography, Relief, and Drainage

Except for a small area of Thin Loess Flatwoods in the eastern part of the county, Calhoun County lies almost entirely within the Middle and Upper Coastal Plain physi-

ographic province. The Middle and Upper Coastal Plain, including the greater part of the county, is a deeply dissected upland area crossed by two rather broad alluvial plains. The hills of this area are generally rounded, and slopes are moderate to steep. The valleys are wide, and streams have developed flood plains and terraces. Relief is low and rolling to flat in the bottoms, rolling to moderate in the clay hills, and moderate to high in the sand hills. Altitude ranges from less than 250 to more than 600 feet above sea level. This area developed on the dominantly sandy materials that make up the Naheola formation of the Midway group, the Wilcox group (undifferentiated), and the Meridian formation of the Claiborne group.

The Thin Loess Flatwoods have a flat to low, rolling relief. Altitude ranges from less than 300 to more than 400 feet above sea level. This area developed on the clay of the Porters Creek formation of the Midway group.

Calhoun County is in the Yazoo River Basin and is drained principally by two major streams, the Yalobusha and the Skuna Rivers, and by their tributaries.

The Yalobusha River, an east- to west-flowing stream formed by the confluence of Mud and Yalobusha Creeks in eastern Calhoun County, drains the southern half. Its main tributaries are Topashaw, Shutispear, and Sabougla Creeks, which flow in a general northwestward direction. Many small creeks flow southward into the Yalobusha River, but Cook Creek is the only tributary of any consequence.

The Skuna River, an east-northeast to west-southwest flowing stream, drains the northern half. Its main tributaries are Kittahutty, Lucknow, Cowpen, Yoda, and Persimmon Creeks, which flow, in general, southward and south-southwestward. Most of the smaller tributaries flow southward, and only a few flow northwestward and westward.

Grenada Reservoir is formed from the Yalobusha and Skuna Rivers, the waters of which are retarded by a dam located about 3 miles northeast of Grenada in Grenada County. At maximum flood stage, the reservoir waters back up the Yalobusha River into Calhoun County some 6 miles and cover an area of about 15 square miles. The Conservation pool is at an elevation of 193 feet, and the spillway crest is at 231 feet (*4*).

In the northern part of Calhoun County, 15 water-retarding structures and 20 desilting dams have been constructed to check the flow of water and silt on the bottom land.

Climate

The principal influences that determine the climate of this county are its subtropical latitude, the huge land mass to the north, the proximity to the warm waters of the Gulf of Mexico, and the prevailing southerly winds.

In summer, the prevailing southerly winds provide a moist, tropical climate, but occasionally the atmospheric pressure distribution brings west or north winds and hot, dry weather, which may develop into a drought such as occurred in 1924, 1925, 1954, and 1960. In winter Calhoun County is subjected to alternately moist, tropical air and dry, polar air. These changes sometimes bring sharp changes in temperature. Cold spells, however, are usually short. The growing season is about 215 days.

The relative humidity is 60 percent or higher 65 percent of the time, and 40 percent or below only 12 percent of the time. When the temperature is 90° F. or higher, relative humidity seldom exceeds 80 percent but ranges between 50 and 79 percent during 26 percent of the time. Even when the temperature is below 50°, the relative humidity is greater than 50 percent more than half the time.

Data on temperature and precipitation are given in table 8, and the probabilities of the last freezing temperature in spring and the first in fall are given in table 9.

Winter and spring are the wettest seasons, whereas summer and fall are the driest, although the differences are small. October is the driest month and is generally the most pleasant month of the year. Winter and spring precipitation often comes as prolonged rain, usually as a result of warm Gulf air aloft, overriding a mass of cold air at the surface. Precipitation during the summer and early fall is in the form of thundershowers. These are generally widely scattered and may bypass a specific area day after day, giving rise to local droughts. On the other hand, 24-hour precipitation of 3 inches or more may occur in any month and cause local flash floods.

Temperature of 32° or lower occurs an average of 60 days a year, and temperature of 90° or higher occurs an average of 78 days a year. Temperature of 90° or higher occurs in about 12 percent of the hours from May through October, and temperature 80° or higher occurs in about 32 percent of the hours in these months. During the months November through April, temperature is 70° or higher in about 9 percent of the hours and below 50° in about 44 percent of the hours. Temperature of 20° or lower occurs at least once each winter, and the ground freezes occasionally, but this freeze is usually shallow and thaws rapidly.

In table 9 probabilities of temperature thresholds of 36° and 40° are included, because frost can form on vegetation under a clear sky and in calm air at night when the temperature registers above 32° on a thermometer 5 feet above ground in a shelter; and low temperatures, even though above freezing, can adversely affect vegetation or seeds in beds. The data for the 36° and 40° thresholds are based on 20 years of record from 1931 to 1960, and the rest of the data are based on 30 years of record from 1921 to 1950. These data have been adjusted to account for years without temperature as low as the indicated threshold. The data on freezes are applicable to most of the county.

Snow or sleet occurs an average of 2 out of every 3 years, usually during January. Since temperature below freezing lasts only 1 to 3 days, snow stays on the ground for only a few days.

Though thunderstorms occur rather frequently, tornadoes and hailstorms are infrequent. They occur about once in every 11 years. Winds from hurricanes seldom penetrate inland as far as Calhoun County, but prolonged, heavy rains from hurricanes can occur.

Industries and Transportation

Agriculture is the main enterprise in Calhoun County. In 1962 more than half of the total employed labor force of 5,499 were engaged in agricultural activities.

There are no sizable industries in Calhoun County. The production of timber was once the leading industry and still is important to the county's economy. In 1962 manu-

TABLE 8.—*Temperature and precipitation*

[All data from Water Valley weather station, Yalobusha County, Mississippi]

Month	Temperature				Precipitation				
	Average daily maximum	Average daily minimum	Two years in 10 will have at least 4 days with—		Average total	One year in 10 will have—		Days with snow cover of 1 inch or more	Average depth of snow on days with snow cover
			Maximum temperature equal to or higher than	Minimum temperature equal to or lower than		Less than	More than		
	° F.	° F.	° F.	° F.	Inches	Inches	Inches		Inches
January	55	34	74	18	5. 64	2. 14	10. 13	1	4. 7
Feburary	59	37	72	21	5. 14	2. 57	8. 83	[1]	2. 4
March	65	42	79	26	6. 23	3. 30	9. 34	[1]	2. 0
April	75	51	86	36	5. 20	2. 42	7. 91	0	0
May	82	58	92	45	3. 92	2. 05	6. 07	0	0
June	90	67	98	59	3. 86	1. 37	6. 47	0	0
July	93	70	100	64	4. 57	1. 65	7. 66	0	0
August	93	69	101	61	3. 09	. 77	5. 23	0	0
September	87	62	97	50	3. 57	1. 13	6. 26	0	0
October	78	51	89	36	2. 69	. 64	5. 58	0	0
November	65	41	78	24	4. 60	1. 92	7. 47	0	0
December	56	36	73	19	5. 25	2. 51	9. 65	[1]	3. 0
Year	75	52	[2] 102	[3] 10	53. 76	41. 36	72. 22	1	4. 0

[1] Less than 0.5 of a day.
[2] Average annual highest maximum.
[3] Average annual lowest minimum.

TABLE 9.—*Probabilities of last freezing temperature in spring and first in fall*

[All data from Water Valley weather station, Yalobusha County, Mississippi, adjusted to Calhoun County]

Probability	Dates for given probability and temperature				
	24° F.	28° F.	32° F.	36° F.	40° F.
Spring:					
1 year in 10 later than	March 17	April 2	April 14	April 28	May 10
2 years in 10 later than	March 10	March 27	April 7	April 22	May 5
5 years in 10 later than	February 24	March 15	March 27	April 11	April 24
Fall:					
1 year in 10 earlier than	November 10	October 27	October 21	October 9	October 4
2 years in 10 earlier than	November 16	November 2	October 26	October 14	October 8
5 years in 10 earlier than	November 29	November 15	November 5	October 24	October 17

facturing enterprises employed 1,538 people, of which 636 worked in the furniture, lumbering, and wood products industries, and 865 were employed in the manufacture of wearing apparel and other textile products.

The county has four main improved roads: State Highway 8, an east-west road through the southern half, connecting Houston, Calhoun City, and Grenada; State Highway 9, a south-northeast road through the central and northeastern parts, connecting Pontotoc, Bruce, Pittsboro, Calhoun City, and Eupora; State Highway 9–W, a northwest-southeast road through the northwestern part, connecting with State Highway 7 in Lafayette County; and State Highway 32, an east-west road through the north-central part, connecting Houlka, Bruce, and Water Valley.

Excellent all-weather gravel roads include State Highway 330, State Highway 341 (partly improved), a north-south road through the eastern part; State highway 331, a north-south road; and State Highway 320, a northeast-southwest road.

Only one railroad, the Mississippi and Skuna Valley Railroad, serves the county, extending from Bruce, through the western half of the county, and connecting with the Illinois Central Railroad at Bruce Station in Yalobusha County.

Trucklines operate over State Highways 8, 9, 9–W, and 32. At present there are no buslines in the county.

One gasline supplies the North Central Natural Gas District of the Southern Natural Gas Company and serves the county with a 6-inch line at Vardaman and Calhoun City and a 4-inch line at Pittsboro and Bruce. Electric power is furnished by the Tennessee Valley Authority.

Pipelines of the Gulf Interstate Gas Company and the Tennessee Gas Transmission Company cross the county. A compressor station for the Gulf Interstate Gas Company

is located just off State Highway 32, approximately 3½ miles west of Banner.

Water Supply

Enough water for most needs is available everywhere, but the depth at which water is obtainable differs considerably from place to place. Artesian water is derived principally from parts of four geologic horizons—the Tuscaloosa group, the Eutaw formation and the Ripley formation of Cretaceous age, and the Wilcox group (undifferentiated) of Tertiary age (*4*). Approximately one-third of the population is supplied by public water systems in the towns of Bruce, Calhoun City, Derma, Pittsboro, and Vardaman, from wells in the Tuscaloosa group and the Eutaw formation. Domestic supplies are developed chiefly in the Eutaw formation and the Ripley formation in the eastern half of the county, and in the Wilcox group (undifferentiated) in the western half. Power pumps and wells supply most of the water for homes in the rural areas. Water for livestock is supplied by streams and ponds and, in some cases, water is pumped from wells.

Agriculture

Cotton is still the leading cash crop in the county, but agriculture has become more diversified since 1949, as indicated by the increased acreage of other crops and by the increase in livestock farming. The total acreage of cropland harvested, however, has decreased. These trends are reflected in changes in the use of land, the acreage of cropland and principal crops, the size, number, and types of farms, and farm tenure, which are discussed in the following paragraphs. Statistics on these subjects are taken from the U.S. Census of Agriculture.

Land use

In 1959, 242,010 acres, or about 64 percent of the total county acreage, was in farms, compared to 72 percent in 1954 and 63 percent in 1949. The harvested cropland decreased from 85,971 acres in 1949 to 77,652 acres in 1954, and to 58,648 acres in 1959. Woodland, not pastured, decreased from 75,026 acres in 1949 to 60,154 acres in 1954, and to 54,144 acres in 1959. Woodland, pastured, decreased from 65,896 acres in 1949 to 53,007 in 1959. On the other hand, pastureland, not including woodland pastured, increased from 43,216 acres in 1949 to 51,242 acres in 1959.

The smoother, more productive land is used for crops, and the steep and wet land is used for trees and pasture. In recent years the tendency has been to divert steep and eroded land from crops to trees. Because acreage allotments of cotton have decreased, more farmers are raising livestock or turning to other sources for cash income.

Acreage of cropland and principal crops and number of livestock

The total acreage of cropland harvested and the acreage of principal crops grown in Calhoun County are given in table 10. As shown in this table, the acreage of cotton and corn has decreased sharply, while that of sweetpotatoes and soybeans has increased. The total acres of cropland harvested in 1959 was 27,323 less than in 1950.

The number of livestock on farms in the county is shown in table 11.

TABLE 10.—*Total cropland harvested and acreage of principal crops harvested in stated years*

Total cropland and crops harvested	1944	1950	1954	1959
	Acres	*Acres*	*Acres*	*Acres*
Total cropland harvested	83, 337	85, 971	77, 652	58, 648
Cotton in cultivation	18, 856	25, 821	20, 880	13, 667
Corn harvested for grain	41, 559	40, 162	32, 327	22, 692
Oats harvested for grain	1, 829	589	2, 913	769
Sweetpotatoes harvested	690	767	725	2, 493
Soybeans harvested for beans	(1)	259	399	2, 020
Hay crops harvested (excluding sorghum, soybeans, cowpeas, and peanuts)	(1)	14, 894	13, 324	11, 510

[1] Not reported.

TABLE 11.—*Livestock on farms*

Livestock	1949	1954	1959
Cattle and calves	16, 499	24, 376	23, 867
Milk cows	6, 529	6, 200	3, 918
Horses and/or mules	5, 899	3, 234	1, 816
Hogs and pigs	14, 465	12, 449	15, 418
Sheep and lambs	4	62	429
Chickens (4 months old and over)	95, 973	77, 209	78, 904

Size, number, and types of farms

Table 12 shows the number of farms in Calhoun County in various size groups in 1949, 1954, and 1959. The number of farms has decreased slightly since 1949. In 1959 there were 1,894 farms, compared with 2,672 in 1954. A change in the definition accounts for part of this decrease (136 farms). The size of the average farm increased from about 103 acres in 1954 to nearly 128 acres in 1959.

Table 13 shows a classification of the farms in Calhoun County by major source of income for 1949, 1954, and 1959. It does not include the large number of miscellaneous and unclassified farms and some field-crop farms other than cotton and cash-grain. As shown in the table,

TABLE 12.—*Number of farms by size in stated years*

Size of farm	Number of farms		
	1949	1954	1959
Acres			
Less than 10	196	194	119
10–49	1, 333	1, 054	634
50–69	323	273	159
70–99	411	335	234
100–139	329	264	226
140–179	184	174	162
180–219	121	96	100
220–259	76	82	58
260–499	134	140	142
500–999	48	44	44
1,000 and over	12	16	16

there were 1,418 cotton farms in 1949 compared to 678 in 1959, and 182 livestock farms in 1949 compared to 240 in 1959.

Farm tenure

Farm owners and tenants have decreased since 1949, as indicated in table 14, but the percentage of full owners and part owners has increased in proportion to the total number of farms, and the percentage of tenants has decreased.

TABLE 13.—*Types of farms*

Type of farm	Number of farms		
	1949	1954	1959
Cotton	1,418	1,621	678
Livestock (other than poultry and dairy)	182	210	240
General	280	66	77
Dairy	26	76	65
Poultry	25	10	26
Cash-grain	11	20	10

TABLE 14.—*Farm tenure*

Tenure	1949	1954	1959
Full owners	1,430	1,260	930
Percent of all farms	45.2	47.2	49.1
Part owners	322	345	296
Percent of all farms	10.2	12.9	15.6
Managers	2	3	4
Percent of all farms	.1	.1	.2
All tenants	1,413	1,064	664
Proportion of tenancy	44.6	39.8	35.0

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Glossary

Alluvium. Soil material, such as sand, silt, or clay, that has been deposited on land by streams.

Available moisture capacity. The capacity of a soil to hold water in a form available to plants. Amount of moisture held in soil between field capacity, or about one-third atmosphere of tension, and the wilting coefficient, or about 15 atmospheres of tension.

Calcareous soil. A soil containing calcium carbonate (lime), or a soil that is alkaline in reaction because of the presence of calcium carbonate. A soil containing enough calcium carbonate (often with magnesium carbonate) to effervesce (fizz) when treated with cold, dilute hydrochloric acid.

Claypan. A compact, slowly permeable soil horizon that contains more clay than the horizon above and below it. A claypan is commonly hard when dry and plastic or stiff when wet.

Colluvium. Soil material, rock fragments, or both, moved to the base of rather steep slopes by creep, slide, or local wash.

Complex, soil. A mapping unit consisting of different kinds of soils that occur in such small individual areas or in such an intricate pattern that they cannot be shown separately on a publishable soil map.

Consistence. The feel of soil. The combination of properties that determine the resistance of soil to crushing and the ability of it to be molded or changed in shape. The consistence of soil varies with moisture content. Soil may be hard when dry and plastic when wet. In the descriptions of most soil profiles, the consistence is given for moist soil unless otherwise stated. The following terms are commonly used to describe consistence:

Loose. Noncoherent; will not hold together in a mass.

Friable. When moist, crushes easily under gentle to moderate pressure between thumb and forefinger and can be pressed together into a lump.

Firm. When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctively noticeable.

Plastic. When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a wire when rolled in hands; not friable.

Sticky. When wet, sticks to thumb and forefinger after pressure and tends to stretch somewhat and pull apart rather than to pull free from either finger; adhesive rather than cohesive when wet, but normally very cohesive when dry.

Hard. When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft. When dry, breaks into powder or individual grains under very slight pressure.

Compact. A term denoting a combination of firm consistence and close packing; a dense and firm arrangement of soil particles that are not cemented.

Brittle. When dry, soil breaks with a clean fracture or shatters to cleanly broken, hard fragments if struck a sharp blow.

Stiff. Soil resists deformation or rupture; firm and tending to imperviousness. Term is normally applied to consistence of soil when in place and moderately wet.

Tight. When wet, soil is compact, impervious, and normally plastic.

Contour furrows. Furrows plowed at right angles to the direction of slope, at the same level throughout, and ordinarily at comparatively close intervals.

Cropland. Land regularly used for crops, except forest crops. Included, in addition to land used for regular crops, are rotation pasture, cultivated summer fallow, and other land ordinarily used for crops but temporarily idle.

Erosion, soil. The wearing away or removal of soil material by water, wind, or other geological agencies.

Fertility, soil. The quality that enables a soil to provide the proper compounds, in adequate amounts, and in the proper balance, for the growth of specified plants when light, moisture, temperature, physical condition of the soil, and similar factors are favorable.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Forest land. Land that has a stand of trees of any age or size, including seedlings, but of species that will reach a minimum average height of 6 feet at maturity; or land from which such a stand has been removed and for which no other use has been substituted.

Fragipan. A dense and brittle pan or layer in soils that is hard mainly because of extreme density or compactness rather than because of high clay content or cementation. Removed fragments are friable, but the material in place is so dense that roots cannot penetrate, and water moves through it very slowly.

Genesis, soil. The way in which the soil originates, particularly the processes responsible for the development of the A and B horizons, or solum, from the unconsolidated parent material.

Glauconite. A dull-green, amorphous iron-potassium silicate occurring abundantly in greensand.

Gley soil. A soil containing a horizon in which waterlogging and consequent lack of oxygen have caused the material to be of neutral gray color.

Great soil group. Any one of several broad soil groups having common internal soil characteristics.

Green-manure crop. Any crop worked into the soil while green or soon after maturity for the purpose of improving the soil.

Horizon, soil. A layer of soil, approximately parallel to the surface that has distinct characteristics produced by soil-forming processes.

Internal drainage. That quality of a soil that permits the downward flow of water through it.

Laterization. A process of soil formation in which rock is decomposed and leaves residual deposits of red color.

Leaching, soil. Removal of materials in solution by the passage of water through the soil.

Loess. Geological deposit of relatively uniform, fine material, mostly silt, that presumably was transported by wind.

Macroclimate. The general climate over a large area, as distinguished from detailed variations within very small areas (microclimate).

Microclimate. The detailed climate of a very small area. To obtain such data, weather studies may be made from 1 to 5 miles apart or a few feet apart.

Morphology, soil. The constitution of the soil, including the texture, structure, consistence, color, and other physical, chemical, mineralogical, and biological properties of the various horizons that make up the soil profile.

Mottling, soil. Contrasting color patches that vary in number and size. Descriptive terms for mottling are: Contrast—faint, distinct, and prominent; abundance—few, common, and many; and size—fine, medium, and coarse. The size measurements are: Fine, commonly less than 5 millimeters (about 0.2 inch) across the greatest dimension; medium, commonly from 5 to 15 millimeters (about 0.2 to 0.6 inch) across the greatest dimension; and coarse, commonly more than 15 millimeters (about 0.6 inch) across the greatest dimension.

Munsell color system. A system for designating color by degrees of the three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with a hue of 10YR, value of 6, and chroma of 4. Hues, such as yellowish red, are identified by letters.

Natural drainage. Conditions of drainage that existed during development of the soil, as opposed to altered drainage that is commonly the result of artificial drainage or irrigation but may result from natural deepening of channels or filling of depressions. The classes of natural drainage are described as follows:

Excessively drained soil is commonly very porous and rapidly permeable and has a low water-holding capacity. Water is removed from the soil very rapidly.

Somewhat excessively drained soil is rapidly permeable and free from mottling. Water is removed from the soil rapidly.

Well-drained soil is nearly free of mottling and is commonly of intermediate texture. Water is removed readily but not rapidly.

Moderately well drained soil commonly has a slowly permeable layer in or immediately beneath the solum. The soil has uniform color in the A and upper B horizons and has mottling in the lower B and C horizons. Water is removed from the soil somewhat slowly so that the profile is wet for a small but significant part of the time.

Imperfectly or somewhat poorly drained soil is wet for significant periods but not all the time, and a podzolic soil of this drainage class commonly has mottling below 6 to 16 inches.

Poorly drained soil is light gray and generally mottled from the surface downward, although mottling may be absent or nearly so in some soils. Water is removed so slowly that the soil remains wet for a large part of the time. The water table is commonly at or near the surface a considerable part of the year.

Very poorly drained soil is wet nearly all the time. It has a dark-gray or black surface layer and is gray or light gray, with or without mottling, in the deeper parts of the profile.

Nutrient, plant. Any element taken in by a plant, essential to its growth, and used by it in the elaboration of its food and tissue. Among these elements are nitrogen, phosphorus, calcium, potassium, magnesium, sulfur, iron, manganese, copper, boron, zinc, and perhaps others that are obtained from the soil; and carbon, hydrogen, and oxygen obtained largely from the air and water.

Overfall. Installation of pipe where needed to dispose of excess water by dropping it from field level to a lower level ditch or outlet to prevent head cutting.

Parent material (soil). The horizon of weathered rock or partly weathered soil material (or peat) from which soil has formed; the C horizon.

Perennial vegetation. Plants that come up from the roots year after year.

Permanent pasture. Pasture that occupies the soil for a long time in contrast to rotation pasture, which occupies the soil for only a year or two in a rotation cycle.

Permeability, soil. The quality of a soil that enables water or air to move through it.

Phase, soil. A subdivision of a soil type, series, or other unit in the soil classification system made because of differences in the soil that affect management but do not affect classification in the natural landscape. In this report the soil phases are subdivisions of soil types and are made chiefly to cover variation in external characteristics, such as relief, stoniness, or erosion.

Podzolization. The process by which a soil is depleted of bases, becomes more acid, and develops a leached surface layer.

Productivity, soil. The capability of a soil to produce a specified plant or sequence of plants under a given system of management.

Profile, soil. A vertical section of the soil through all its horizons and extending into the parent material.

Reaction. The acidity or alkalinity of the soil expressed in words or pH values as follows:

	pH		*pH*
Extremely acid	Below 4.5	Neutral	6.6–7.3
Very strongly acid	4.5–5.0	Mildly alkaline	7.4–7.8
Strongly acid	5.1–5.5	Moderately alkaline	7.9–8.4
Medium acid	5.6–6.0	Strongly alkaline	8.5–9.0
Slightly acid	6.1–6.5	Very strongly alkaline	9.1 and higher

Relief. The elevations or inequalities of a land surface considered collectively.

Sand. (1) Individual rock or mineral fragments with diameters that range from 0.05 millimeter to 2.0 millimeters. Most sand grains consist of quartz, but they may be any mineral composition. (2) The textural class name of any soil that contains 85 percent or more of sand and not more than 10 percent of clay.

Series, soil. A group of soil types closely similar in all respects except for texture of the surface soil. Soils of a series have the same profile characteristics; the same general range in color, structure, consistence, and sequence of horizons; the same general conditions of relief and drainage; and generally a common or similar origin and mode of formation.

Silt. (1) Individual mineral particles of soil that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). (2) Soil of the silt textural class is 80 percent or more silt and less than 12 percent clay.

Soil. The natural medium for the growth of land plants on the face of the earth; it is composed of organic and mineral materials.

Solum. The upper part of a soil profile, above the parent material, in which the process of soil formation is active. The solum of a mature soil includes the A and B horizons.

Structure, soil. The arrangement of the individual soil grains into aggregates that make up the soil mass. The term may refer to the natural arrangement of the grains when the soil is in place and undisturbed, or when the soil is at any degree of disturbance. The principal forms of structure are *platy*, *prismatic*, *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. Structureless soils are (1) *single grain* (each grain by itself, as in dune sand) or (2) *massive* (the particles adhering together without any regular cleavage, as in many claypans and hardpans).

Subsoil. Technically, the B horizon; roughly, that part of the profile below plow depth in which roots normally grow.

Substratum. Any layer beneath the solum, or true soil; the C or D horizon.

Surface runoff. Amount of water removed by flow over the surface of the soil. The amount and rapidity of runoff are affected by the texture, structure, and porosity of the surface soil; the plant cover; the prevailing climate; and the slope of the soil. Terms used to express relative degrees of runoff are *very rapid*, *rapid*, *medium*, *slow*, *very slow*, and *ponded*.

Surface soil. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, about 5 to 8 inches in thickness. The plowed layer.

Texture, soil. The coarseness or fineness of soil as determined by the size of the individual particles making up the soil mass. The proportions of the soil separates—sand, silt, and clay—determine texture. The basic textural classes, in order of increasing fineness, are sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, silty clay loam, sandy clay, silty clay, and clay.

Tilth. The physical condition of soil, especially soil structure, in relation to its fitness for the growth of plants.

Type, soil. A subgroup or category under the soil series that is based on the texture of the surface soil.

Undifferentiated soil group (mapping unit). Two or more related soils or land types that are mapped as a single unit because their differences are not significant to the purpose of the survey or to soil management.

Upland (geology). Land consisting of materials unworked by water in recent geologic time and ordinarily lying at a higher elevation than the alluvial plain or stream terrace. Land above the lowlands along streams.

Water-disposal system. (1) For soil on which erosion is the chief hazard, a water disposal system includes row arrangement or terraces with rows and vegetative waterways. Diversions are needed where hillside water from above is a problem. (2) For soil on which wetness is the chief hazard, a disposal system includes row arrangement, V– and W–ditches, and secondary ditches. Diversions may be needed where hillside water is a problem.

GUIDE TO MAPPING UNITS, CAPABILITY UNITS, AND WOODLAND SUITABILITY GROUPS

[See table 1, p. 5, for approximate acreage and proportionate extent of soils; table 2, p. 26, for estimated average acre yields; and table 5, p. 38, and table 6, p. 42, for engineering properties of soils]

Map symbol	Mapping unit	Page	Capability unit		Woodland suitability group	
			Symbol	Page	Number	Page
Al	Almo silt loam	4	IIIw–2	22	5	33
BuB	Bude silt loam, 2 to 5 percent slopes	5	IIIw–1	22	3	32
BuB2	Bude silt loam, 2 to 5 percent slopes, eroded	5	IIIw–1	22	3	32
BuC	Bude silt loam, 5 to 8 percent slopes	6	IIIe–2	21	3	32
Ca	Chastain silt loam	6	IVw–1	24	9	34
Ch	Chastain silty clay loam	6	IVw–1	24	9	34
Co	Collins silt loam	6	IIw–1	20	10	34
Cm	Collins silt loam, local alluvium	7	IIw–1	20	10	34
CrD	Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes.	7	IVe–4	24	2	32
CrD3	Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes, severely eroded.	7	VIe–3	25	2	32
CrE	Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes.	7	VIIe–2	26	2	32
CrE3	Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes, severely eroded.	8	VIIe–2	26	2	32
DuB2	Dulac silt loam, 2 to 5 percent slopes, eroded.	8	IIe–1	19	1	30
DuB3	Dulac silt loam, 2 to 5 percent slopes, severely eroded.	9	IIIe–1	21	1	30
DuC2	Dulac silt loam, 5 to 8 percent slopes, eroded.	8	IIIe–1	21	1	30
DuC3	Dulac silt loam, 5 to 8 percent slopes, severely eroded.	9	IVe–1	23	1	30
DuD2	Dulac silt loam, 8 to 12 percent slopes, eroded.	8	IVe–3	23	1	30
DuD3	Dulac silt loam, 8 to 12 percent slopes, severely eroded.	9	VIe–1	25	1	30
Fa	Falaya silt loam	9	IIw–2	20	8	34
Fb	Falaya silt loam, local alluvium	10	IIw–2	20	8	34
FkB	Falkner silt loam, 2 to 5 percent slopes	10	IIIw–1	22	4	33
FkB2	Falkner silt loam, 2 to 5 percent slopes, eroded.	10	IIIw–1	22	4	33
FkC2	Falkner silt loam, 5 to 8 percent slopes, eroded.	10	IIIe–2	21	4	33
FrB2	Freeland silt loam, 2 to 5 percent slopes, eroded.	11	IIe–1	19	1	30
FrB3	Freeland silt loam, 2 to 5 percent slopes, severely eroded.	11	IIIe–1	21	1	30
FrC3	Freeland silt loam, 5 to 8 percent slopes, severely eroded.	11	IVe–1	23	1	30
Gu	Gullied land	11	VIIe–1	25	7	34
HaA	Hatchie silt loam, 0 to 2 percent slopes	12	IIIw–1	22	3	32
HaB	Hatchie silt loam, 2 to 5 percent slopes	12	IIIw–1	22	3	32
HaB2	Hatchie silt loam, 2 to 5 percent slopes, eroded.	12	IIIw–1	22	3	32

GUIDE TO MAPPING UNITS, CAPABILITY UNITS, AND WOODLAND SUITABILITY GROUPS—Continued

Map symbol	Mapping unit	Page	Capability unit		Woodland suitability group	
			Symbol	Page	Number	Page
Hn	Henry silt loam	13	IIIw–2	22	5	33
Ma	Mayhew silty clay loam	13	IVw–2	25	4	33
Mx	Mixed alluvial land	13	IIIw–3	23	9	34
OeF	Orangeburg and Eustis soils, 17 to 35 percent slopes.	14	VIIe–2	26	6	33
PrB2	Providence silt loam, 2 to 5 percent slopes, eroded.	15	IIe–1	19	1	30
PrB3	Providence silt loam, 2 to 5 percent slopes, severely eroded.	15	IIIe–1	21	1	30
PrC2	Providence silt loam, 5 to 8 percent slopes, eroded.	14	IIIe–1	21	1	30
PrC3	Providence silt loam, 5 to 8 percent slopes, severely eroded.	14	IVe–1	23	1	30
PrD2	Providence silt loam, 8 to 12 percent slopes, eroded.	15	IVe–3	23	1	30
PrD3	Providence silt loam, 8 to 12 percent slopes, severely eroded.	15	VIe–1	25	1	30
Tc	Tickfaw silt loam	15	IIIw–2	22	5	33
Ur	Urbo silty clay loam	16	IIw–3	20	9	34
Wa	Waverly silt loam	16	IVw–1	24	9	34
WcB2	Wilcox silty clay loam, 2 to 5 percent slopes, eroded.	17	IIIe–3	21	4	33
WcB3	Wilcox silty clay loam, 2 to 5 percent slopes, severely eroded.	17	IVe–2	23	4	33
WcC2	Wilcox silty clay loam, 5 to 8 percent slopes, eroded.	17	IVe–2	23	4	33
WcC3	Wilcox silty clay loam, 5 to 8 percent slopes, severely eroded.	17	VIe–2	25	4	33
WcD3	Wilcox silty clay loam, 8 to 12 percent slopes, severely eroded.	17	VIe–2	25	4	33

○

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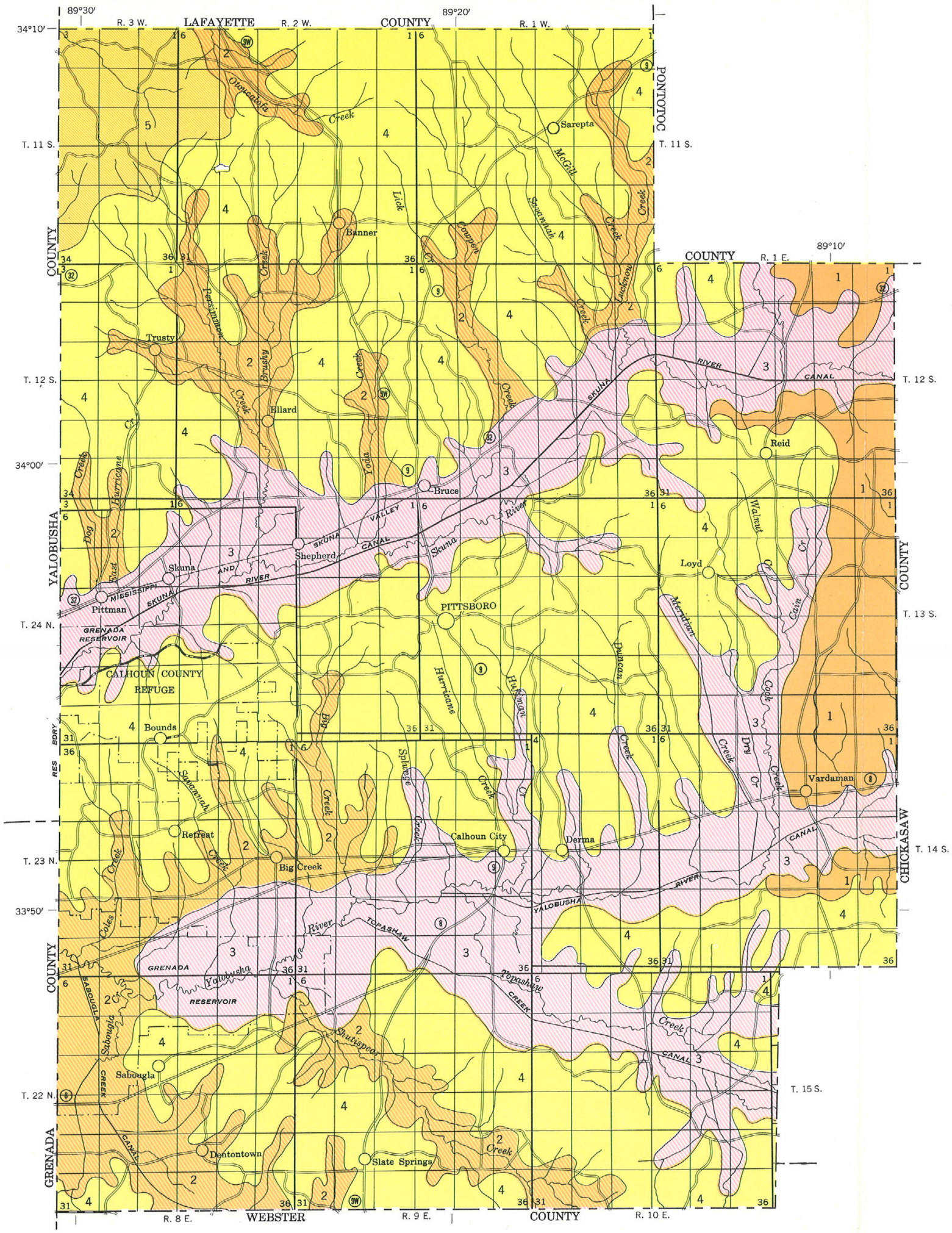


U. S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

MISSISSIPPI AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP

CALHOUN COUNTY, MISSISSIPPI

SOIL ASSOCIATIONS

N

1 — Wilcox-Falkner-Tickfaw association: Somewhat poorly drained to poorly drained soils on uplands

2 — Falaya-Waverly-Collins association: Silty soils on flood plains

3 — Falaya-Chastain-Urbo association: Silty and clayey soils on flood plains

4 — Cuthbert-Dulac-Ruston association: Soils on narrow ridges and steep side slopes

5 — Orangeburg-Eustis association: Steep to very steep soils on ridges and slopes

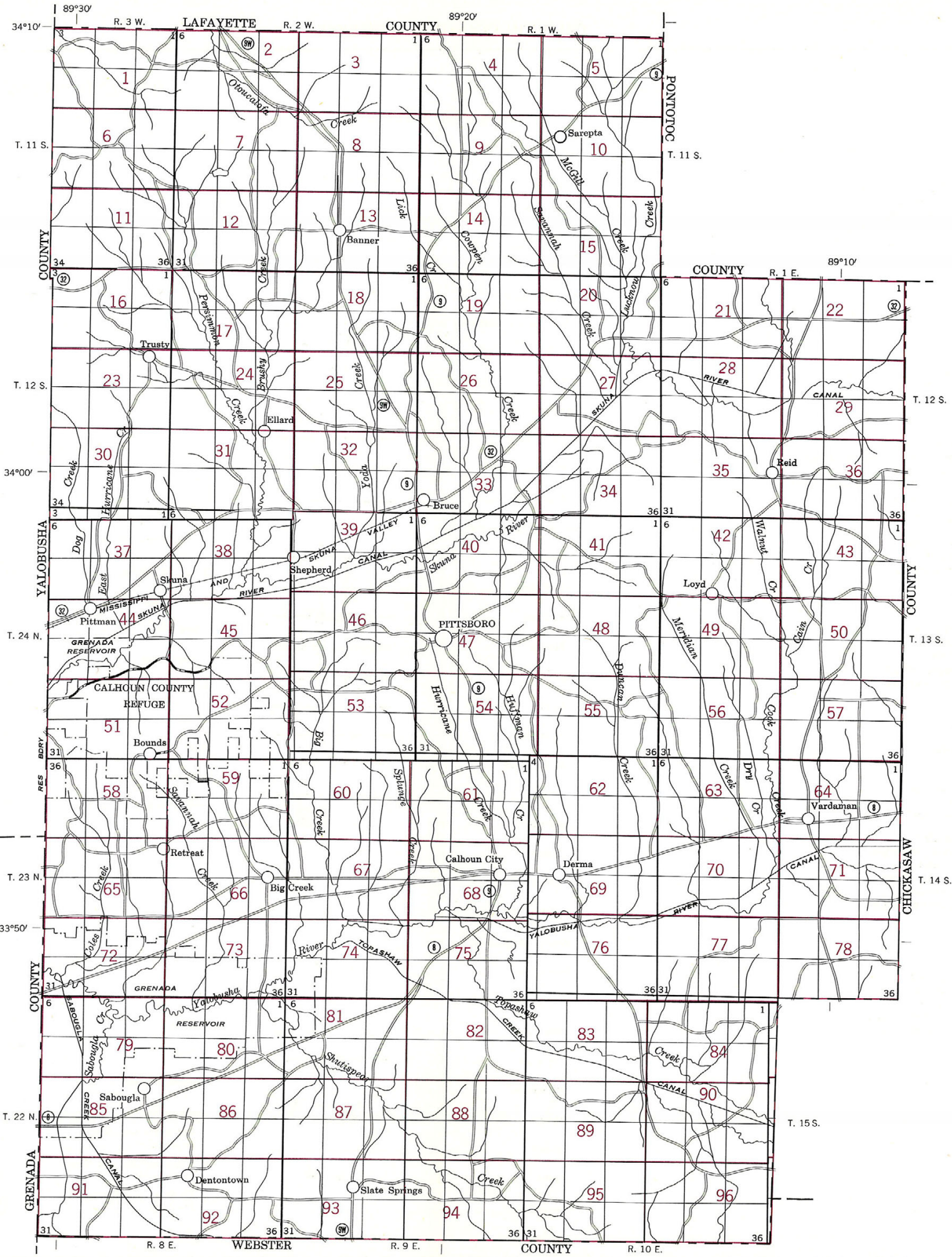
July 1964

Scale 1:190080

1 0 1 2 3 4 5 Miles

INDEX TO MAP SHEETS

CALHOUN COUNTY, MISSISSIPPI



SOIL LEGEND

The first capital letter is the initial one of the soil name. A second capital letter, A, B, C, D, E, or F, shows the slope. Symbols for nearly level soils, such as Almo silt loam do not contain a slope letter. Neither does the symbol for a land type that has a considerable range of slope--Gullied land. The number, 2 or 3, in a symbol indicates that the soil is eroded or severely eroded.

SYMBOL	NAME
Al	Almo silt loam
BuB	Bude silt loam, 2 to 5 percent slopes
BuB2	Bude silt loam, 2 to 5 percent slopes, eroded
BuC	Bude silt loam, 5 to 8 percent slopes
Ca	Chastain silt loam
Ch	Chastain silty clay loam
Co	Collins silt loam
Cm	Collins silt loam, local alluvium
CrD	Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes
CrD3	Cuthbert, Dulac, and Ruston soils, 8 to 12 percent slopes, severely eroded
CrE	Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes
CrE3	Cuthbert, Dulac, and Ruston soils, 12 to 35 percent slopes, severely eroded
DuB2	Dulac silt loam, 2 to 5 percent slopes, eroded
DuB3	Dulac silt loam, 2 to 5 percent slopes, severely eroded
DuC2	Dulac silt loam, 5 to 8 percent slopes, eroded
DuC3	Dulac silt loam, 5 to 8 percent slopes, severely eroded
DuD2	Dulac silt loam, 8 to 12 percent slopes, eroded
DuD3	Dulac silt loam, 8 to 12 percent slopes, severely eroded
Fa	Falaya silt loam
Fb	Falaya silt loam, local alluvium
FkB	Falkner silt loam, 2 to 5 percent slopes
FkB2	Falkner silt loam, 2 to 5 percent slopes, eroded
FkC2	Falkner silt loam, 5 to 8 percent slopes, eroded
FrB2	Freeland silt loam, 2 to 5 percent slopes, eroded
FrB3	Freeland silt loam, 2 to 5 percent slopes, severely eroded
FrC3	Freeland silt loam, 5 to 8 percent slopes, severely eroded
Gu	Gullied land
HaA	Hatchie silt loam, 0 to 2 percent slopes
HaB	Hatchie silt loam, 2 to 5 percent slopes
HaB2	Hatchie silt loam, 2 to 5 percent slopes, eroded
Hn	Henry silt loam
Ma	Mayhew silty clay loam
Mx	Mixed alluvial land
OeF	Orangeburg and Eustis soils, 17 to 35 percent slopes
PrB2	Providence silt loam, 2 to 5 percent slopes, eroded
PrB3	Providence silt loam, 2 to 5 percent slopes, severely eroded
PrC2	Providence silt loam, 5 to 8 percent slopes, eroded
PrC3	Providence silt loam, 5 to 8 percent slopes, severely eroded
PrD2	Providence silt loam, 8 to 12 percent slopes, eroded
PrD3	Providence silt loam, 8 to 12 percent slopes, severely eroded
Tc	Tickfaw silt loam
Ur	Urbo silty clay loam
Wa	Waverly silt loam
WcB2	Wilcox silty clay loam, 2 to 5 percent slopes, eroded
WcB3	Wilcox silty clay loam, 2 to 5 percent slopes, severely eroded
WcC2	Wilcox silty clay loam, 5 to 8 percent slopes, eroded
WcC3	Wilcox silty clay loam, 5 to 8 percent slopes, severely eroded
WcD3	Wilcox silty clay loam, 8 to 12 percent slopes, severely eroded

CONVENTIONAL SIGNS

WORKS AND STRUCTURES

Highways and roads
- Dual
- Good motor
- Poor motor
- Trail

Highway markers
- National Interstate
- U. S.
- State

Railroads
- Single track
- Multiple track
- Abandoned

Bridges and crossings
- Road
- Trail, foot
- Railroad
- Ferries
- Ford
- Grade
- R. R. over
- R. R. under
- Tunnel

Buildings
- School
- Church
- Cotton gin

Mines and Quarries
- Mine dump
- Pits, gravel or other

Power lines

Pipe lines

Cemeteries

Dams

Levees

Tanks

Oil wells

BOUNDARIES

- National or state
- County
- Township, U. S.
- Section line, corner
- Reservation
- Land grant

DRAINAGE

Streams
- Perennial
- Intermittent, unclass.

Canals and ditches (CANAL / DITCH)

Lakes and ponds
- Perennial
- Intermittent

Wells (flowing)

Springs

Marsh

Wet spot

Drainage end

RELIEF

Escarpments
- Bedrock
- Other

Prominent peaks

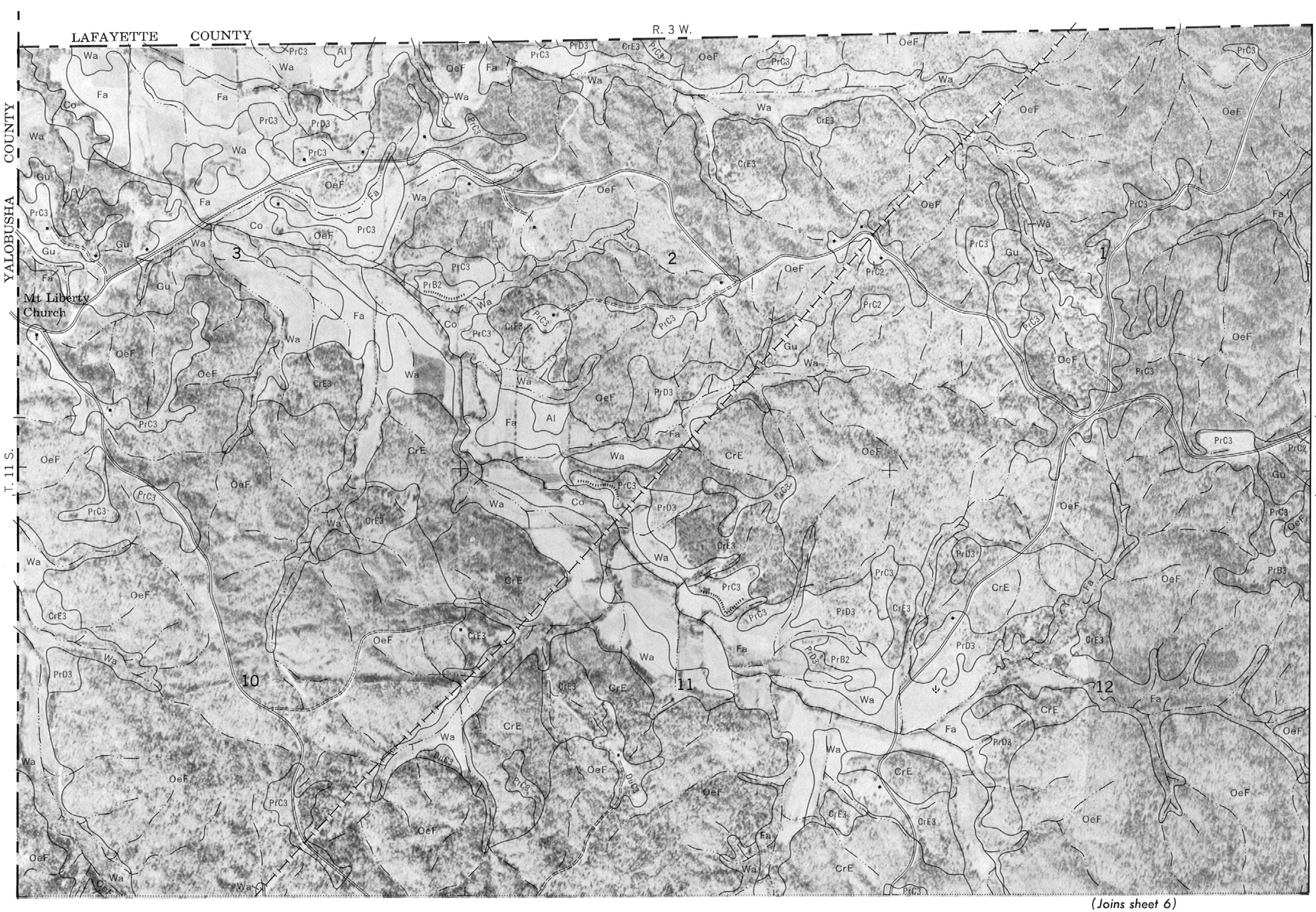
Depressions

	Large	Small
Crossable with tillage implements		
Not crossable with tillage implements		
Contains water most of the time		

SOIL SURVEY DATA

- Soil boundary and symbol (Dx)
- Gravel
- Stones
- Rock outcrops
- Chert fragments
- Clay spot
- Sand spot
- Gumbo or scabby spot
- Made land
- Severely eroded spot
- Blowout, wind erosion
- Gullies

Soil map constructed 1964 by Cartographic Division, Soil Conservation Service, USDA, from 1958 aerial photographs. Controlled mosaic based on Mississippi plane coordinate system, east zone, transverse Mercator projection. 1927 North American datum.



0 ½ Mile Scale 1:15 840 0 3 000 Feet

(2)

N

R. 2 W.

LAFAYETTE COUNTY

T. 11 S.

(Joins sheet 1)

(Joins sheet 3)

(Joins sheet 7)

Drivers Flat Church

Otoucalofa Creek

Otoucalofa Creek

6 5 4 7 8 9

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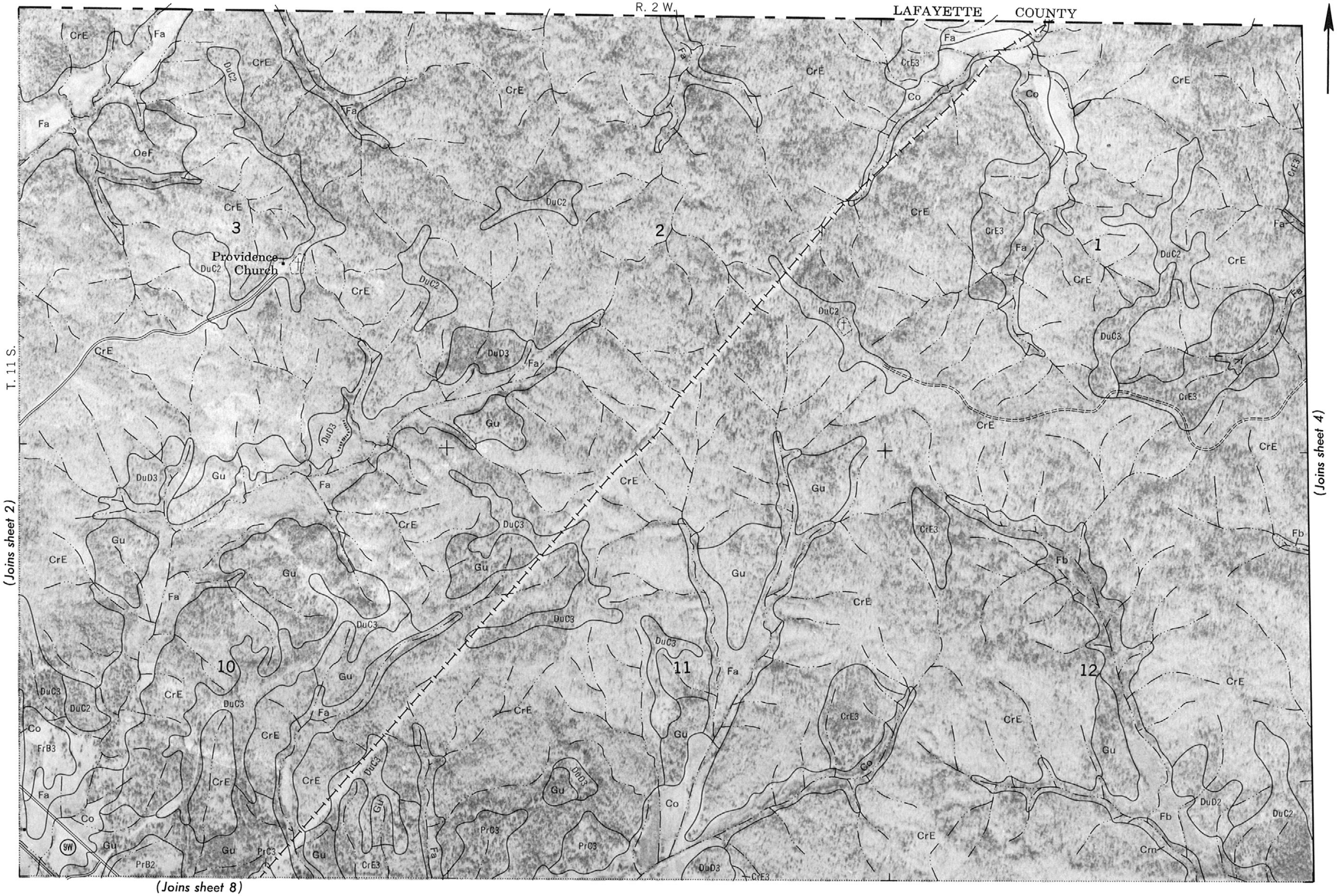


0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

R. 1 W.

LAFAYETTE COUNTY

T. 11 S.

Potlockney Creek

Shady Grove Church

McGill Creek

(Joins sheet 3)

(Joins sheet 5)

(Joins sheet 9)

0 ½ Mile Scale 1:15 840 0 3 000 Feet

5

N

R. 1 W.

LAFAYETTE COUNTY

PONTOTOC COUNTY

CHICKASAW MERIDIAN

T. 11 S.

(Joins sheet 4)

(Joins sheet 10)

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

R. 3 W.

T. 11 S.

YALOBUSHA COUNTY

(Joins sheet 1)

(Joins sheet 7)

(Joins sheet 11)

15 14 13 22 23 24

Wa OeF We Gu PrC3 CrE3 CrE Fa DuC3 PrB2 PrC2 Mx DuC2 Fb DuD2 Cm DuD3 PrB3 Co

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

R. 2 W.

T. 11 S.

(Joins sheet 2)

(Joins sheet 6)

(Joins sheet 8)

(Joins sheet 12)

Otoucalofa Creek

16 17 18 19 20 21

OeF PrC2 CrE Co Gu DuC2 DuC3 Fa FrB3 Mx Wa CrE3 DuD3 Cm Fb HaB HaB2 DuB3 DuD2 FrB2 PrB3

0 ½ Mile

Scale 1:15 840

0 3 000 Feet

8

N

(Joins sheet 3)

R. 2 W.

T. 11 S.

(Joins sheet 7)

(Joins sheet 9)

(Joins sheet 13)

Otoucalofa Creek

15 14 13 22 23 24

9W

BORROW PIT

Co Gu Fa PrB2 PrC3 CrE3 PrB3 FrB3 Wa Mx CrE DuC2 DuC3 DuD2 DuD3 HaB2 HaA Cm Fb

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

R. 1 W.

T. 11 S.

(Joins sheet 4)

(Joins sheet 8)

(Joins sheet 10)

(Joins sheet 14)

16 17 18 19 20 21

Sangamon Creek

0 ½ Mile Scale 1:15 840 0 3 000 Feet

(10)


N
(Joins sheet 5)
R. 1 W.
CHICKASAW MERIDIAN
T. 11 S.
PONTOTOC COUNTY
(Joins sheet 9)
(Joins sheet 15)
Sarepta
McGill
Creek
Lockhow
Creek
13
14
15
22
23
24
CrE
CrE3
DuC3
DuC2
DuD3
DuD2
DuB3
DuB2
Gu
Wa
Fa
Mx
Co
Fb
Al
HaA
HaB
HaB2
FrB2
FrB3
FrC3
PrB3
PrC3
PrC2
0
½ Mile
Scale 1:15 840
0
3 000 Feet

N

R. 3 W.

(Joins sheet 6)

T. 11 S.

YALOBUSHA COUNTY

27 26 25 34 35 36

Turkey Creek

Horse Creek

Turkey Creek Church

OeF PrC3 Gu Fa CrE CrE3 DuC2 DuC3 DuD3 Fb Co FrB3 DuB3 HaB2 HaA Wa Cm PrC2 DuD2

(Joins sheet 12)

(Joins sheet 16)

32

0 ½ Mile Scale 1:15 840 0 3 000 Feet

12

N

(Joins sheet 7)

R. 2 W.

T. 11 S.

(Joins sheet 11)

(Joins sheet 13)

(Joins sheet 17)

COMPRESSOR STATION

Persimmon Creek

Brushy Creek

30 29 28 31 32 33

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

R. 2 W.

(Joins sheet 8)

T. 11 S.

(Joins sheet 12)

(Joins sheet 14)

(Joins sheet 18)

Banner

Lick Cr

27 26 25 34 35 36

0 ½ Mile

Scale 1:15 840

0 3 000 Feet

14

N

(Joins sheet 9)

R. 1 W.

T. 11 S.

(Joins sheet 13)

(Joins sheet 15)

(Joins sheet 19)

Lantrip Church

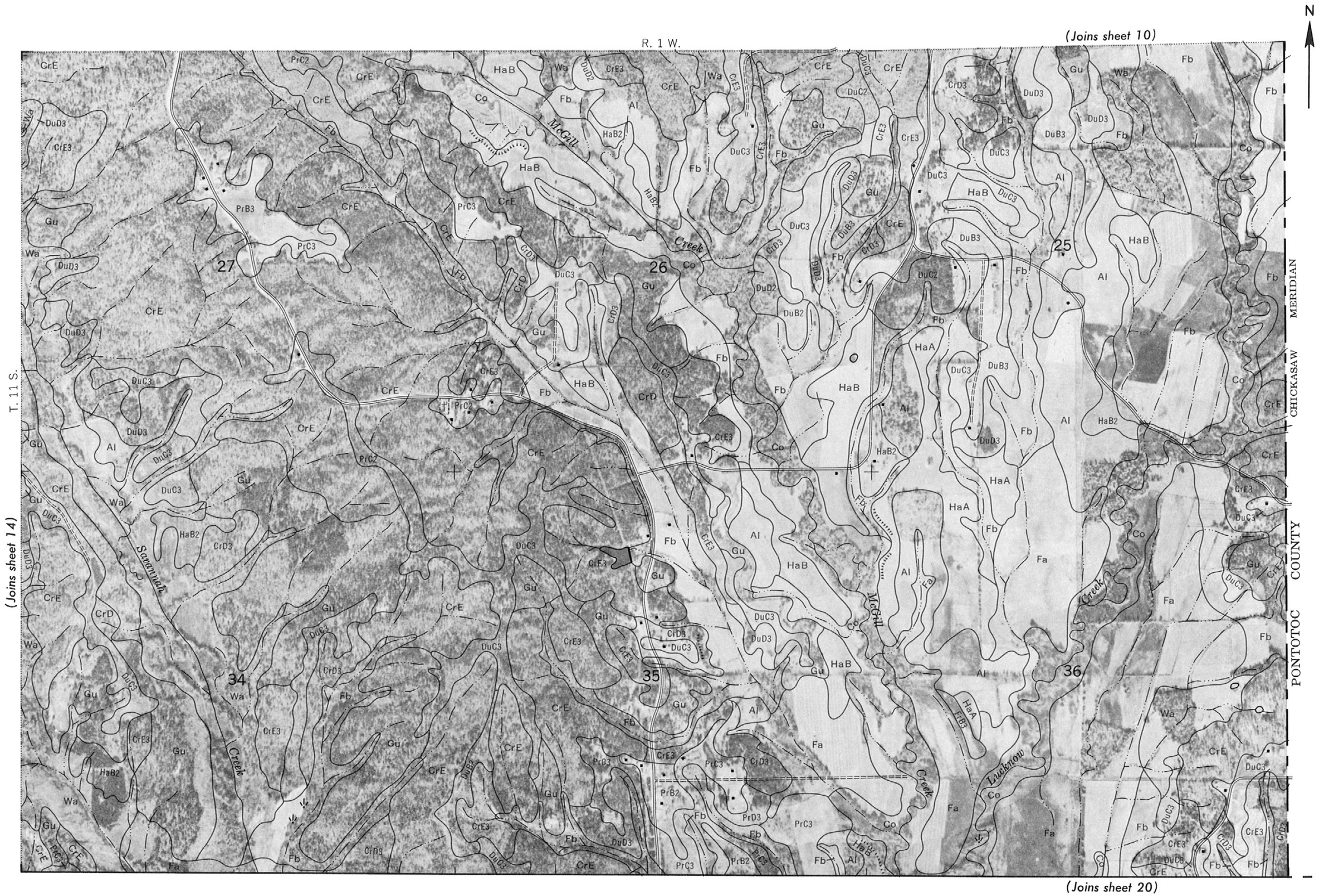
Coupen Creek

Little Coldwater Creek

Sappanoh Cr.

30 29 28 31 32 33

0 ½ Mile Scale 1:15 840 0 3 000 Feet


N
R. 1 W.
(Joins sheet 10)
T. 11 S.
(Joins sheet 14)
(Joins sheet 20)
CHICKASAW
PONTOTOC
COUNTY
MERIDIAN
McGill Creek
Savannah Creek
Lucknow Creek
McGill Co.
25
26
27
34
35
36
CrE
PrC2
HaB
Wa
DuD2
CrE3
Co
Fb
Al
HaB2
DuC3
Gu
CrD3
DuD3
DuB3
DuC2
HaA
Fa
PrB3
PrC3
CrD
DuB2
PrB2
PrD3
CiD3
DuC8
0
½ Mile
Scale 1:15 840
0
3 000 Feet


N
(Joins sheet 11)
R. 3 W.
T. 12 S.
DIST BDRY
DISTRICT
CHOCTAW
CHICKASAW
COUNTY
YALOBUSHA
Horse
Pin
Creek
1
2
3
10
11
12
32
(Joins sheet 17)
(Joins sheet 23)
0
½ Mile
Scale 1:15 840
0
3 000 Feet

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

(Joins sheet 13)

R. 2 W.

T. 12 S.

(Joins sheet 17)

(Joins sheet 19)

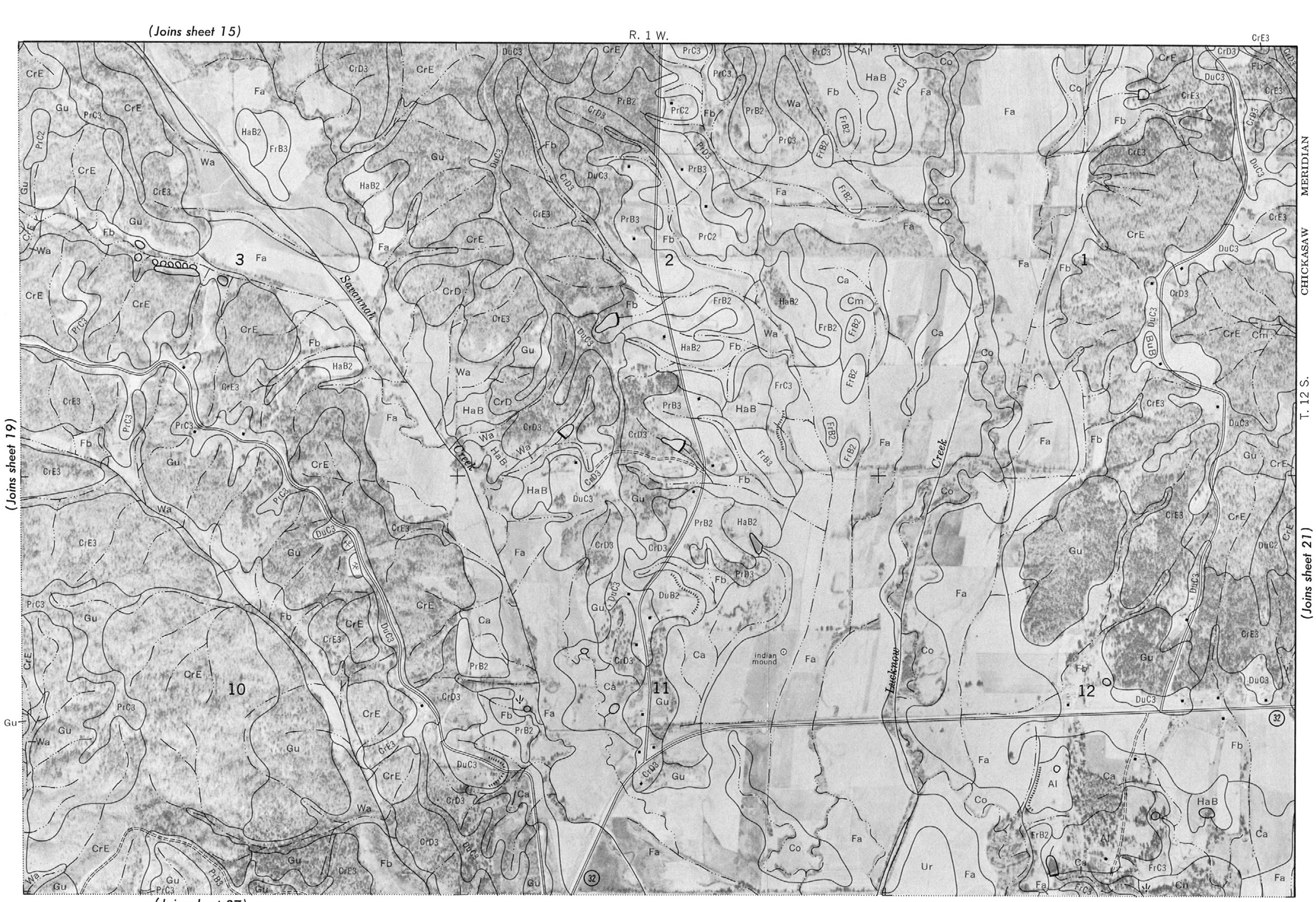
(Joins sheet 25)

Creek

Yoda

0 ½ Mile Scale 1:15 840 0 3 000 Feet


R. 1 W.
(Joins sheet 14)
T. 12 S.
(Joins sheet 18)
(Joins sheet 20)
(Joins sheet 26)
N
SAND PIT
Lacks Creek
Cowpen Creek
Scale 1:15 840
0
½ Mile
0
3 000 Feet


N
(Joins sheet 15)
R. 1 W.
CHICKASAW MERIDIAN
T. 12 S.
(Joins sheet 19)
(Joins sheet 21)
(Joins sheet 27)
Savannah Creek
Tuckinnow Creek
indian mound
1
2
3
10
11
12
32
CrE
CrE3
CrD3
CrD
DuC3
PrC3
PrC2
PrB3
PrB2
PrD3
HaB2
HaB
FrB3
FrB2
FrC3
DuB2
Gu
Wa
Fa
Fb
Co
Ca
Cm
Al
Ur
Ch
0
½ Mile
Scale 1:15 840
0
3 000 Feet


R. 1 E.
PONTOTOC COUNTY
CHICKASAW MERIDIAN
T. 12 S.
N
(Joins sheet 20)
(Joins sheet 22)
(Joins sheet 28)
indian mound
indian mound
Kittahatta Creek
Kittahatta Creek
Creek
32
32
0
½ Mile
Scale 1:15 840
0
3 000 Feet

22

N

R. 1 E.

PONTOTOC COUNTY

CHICKASAW COUNTY

T. 12 S.

(Joins sheet 21)

(Joins sheet 29)

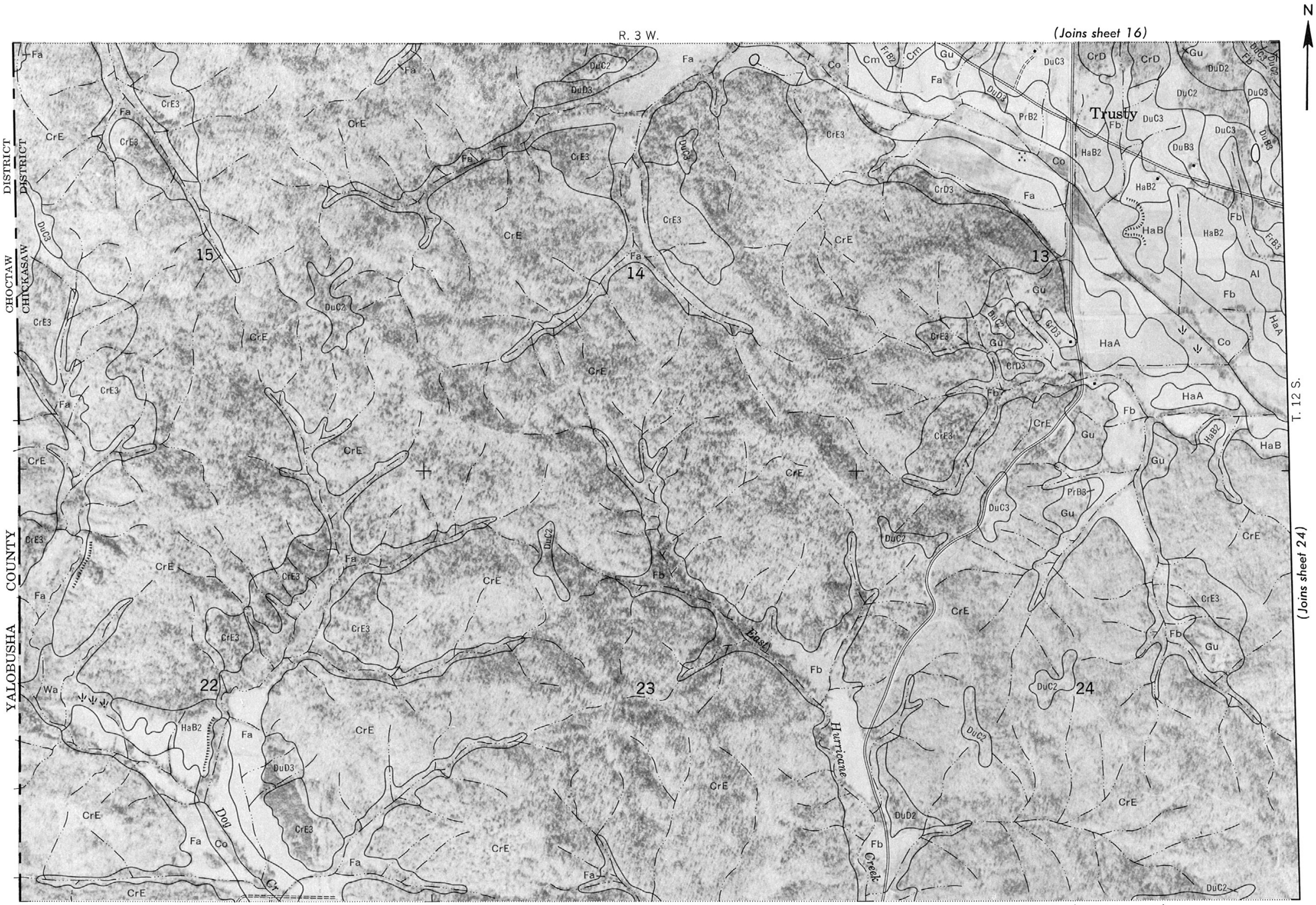
Splinterback Church

Indian mound

Indian mound

Kettlehutty

0 ½ Mile Scale 1:15 840 0 3 000 Feet



0 ½ Mile Scale 1:15 840 0 3 000 Feet

0 ½ Mile Scale 1:15 840 0 3 000 Feet


R. 2 W.
(Joins sheet 18)
N
T. 12 S.
(Joins sheet 24)
(Joins sheet 26)
(Joins sheet 32)
BORROW PIT
Yoda Creek
15
14
13
22
23
24
CrE
CrE3
DuC2
DuC3
DuD3
Cm
Fb
Wa
Co
Gu
HaA
HaB
HaB2
FrB2
FrB3
FrC3
Fa
PrC2
DuD2
DuB2
DuB3
CrD
9W
9
0
½ Mile
Scale 1:15 840
0
3 000 Feet

CALHOUN COUNTY, MISSISSIPPI — SHEET NUMBER 26

N

(Joins sheet 19)

(Joins sheet 25)

(Joins sheet 27)

(Joins sheet 33)

0 ½ Mile

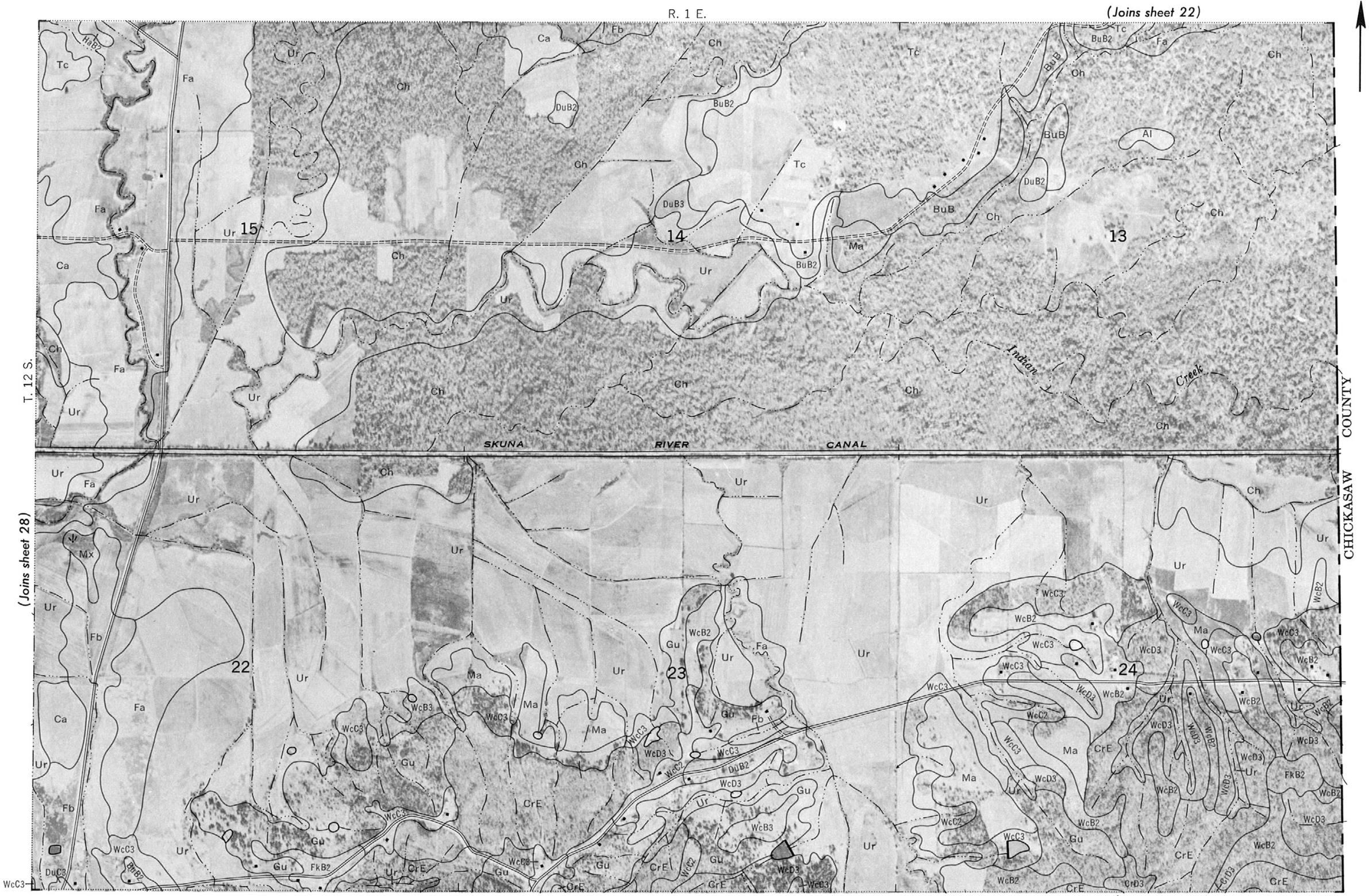
Scale 1:15 840

0 3 000 Feet

0 ½ Mile Scale 1:15 840 0 3 000 Feet

CALHOUN COUNTY, MISSISSIPPI — SHEET NUMBER 28

0 ½ Mile Scale 1:15 840 0 3 000 Feet


N
R. 1 E.
(Joins sheet 22)
T. 12 S.
(Joins sheet 28)
(Joins sheet 36)
CHICKASAW COUNTY
SKUNA RIVER CANAL
Indian Creek
15
14
13
22
23
24
Tc
Fa
Ca
Ch
Ur
Fb
Mx
Ma
Al
BuB
BuB2
DuB2
DuB3
HaB2
WcB2
WcB3
WcC2
WcC3
WcD2
WcD3
CrE
CrD3
DuC3
FkB2
Gu
0
½ Mile
Scale 1:15 840
0
3 000 Feet

30

(Joins sheet 23)

R. 3 W.

N

CHOCTAW DISTRICT
CHICKASAW DISTRICT

YALOBUSHA COUNTY

T. 12 S.

T. 13 S.

(Joins sheet 31)

(Joins sheet 37)

CHICKASAW DISTRICT
CHOCTAW DISTRICT

Dog Creek
Hurricane Creek
Beat

0 ½ Mile Scale 1:15 840 0 3 000 Feet

R. 2 W.

(Joins sheet 24)

N

Concord Church

Ellard

Persimmon Creek

Brushy Creek

Persimmons Creek

30 29 28 31 32 33 6 5 4

T. 12 S.

T. 13 S.

(Joins sheet 30) (Joins sheet 32) (Joins 39) (37) (Joins sheet 38)

CHICKASAW DISTRICT

CHOCTAW DISTRICT

0 ½ Mile

Scale 1:15 840

0 3 000 Feet

N

(Joins sheet 25)

R. 2 W.

T. 12 S.

(Joins sheet 31)

(Joins sheet 33)

(Joins sheet 39)

27 26 25 34 35 36

Yoda Creek

BRUCE

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

R. 1 W.

(Joins sheet 26)

T. 12 S.

(Joins sheet 32)

(Joins sheet 34)

(Joins sheet 40)

BRUCE

COWPEN CREEK

SKUNA CANAL

SKUNA RIVER

Co RIVER

30 29 28 31 32 33

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

(Joins sheet 27)

R. 1 W.

CHICKASAW MERIDIAN

T. 12 S.

(Joins sheet 33)

(Joins sheet 35)

(Joins sheet 41)

SKUNA RIVER CANAL

27 26 25 34 35 36

Fb FrC3 Ch Ur Co Fa Ca Gu CrE CrE3 PrC3 PrD3 DuC3 DuD2 DuD3 DuC2 Cm Wa PrC2

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

R. 1 E.

(Joins sheet 28)

CHICKASAW MERIDIAN

T. 12 S.

(Joins sheet 34)

(Joins sheet 36)

(Joins sheet 42)

Reid

Poplar Springs Church

30 29 28 31 32 33

0 ½ Mile Scale 1:15 840 0 3 000 Feet


N
(Joins sheet 29)
R. 1 E.
T. 12 S.
CHICKASAW COUNTY
(Joins sheet 35)
(Joins sheet 43)
27
26
25
34
35
36
Cain Creek
Lick Creek
CrE
CrE3
DuC3
DuC2
WcC3
WcD3
WcB2
WcB3
WcC2
FkB
FkB2
Gu
Ur
Fb
Ch
Tc
Fa
Co
CrD3
CrD
DuD3
DuD2
BuB2
BuC
FkC2
Ca
PtC3
0
½ Mile
Scale 1:15 840
0
3 000 Feet


N
(Joins sheet 30)
(31)
CHICKASAW
CHOCTAW
DISTRICT
DISTRICT
T. 24 N.
YALOBUSHA COUNTY
R. 8 E.
(Joins sheet 44)
(Joins sheet 38)
Dog Creek
Hurricane Creek
East
MISSISSIPPI AND SKUNA VALLEY
Skuna
0 ½ Mile
Scale 1:15 840
0 3 000 Feet

38

N

(Joins sheet 31)

CHICKASAW DISTRICT
CHOCTAW DISTRICT

T. 24 N.

(Joins sheet 37)

(Joins sheet 39)

(Joins sheet 45)

R. 8 E.

indian mound
indian mounds
Persimmons Creek
SKUNA VALLEY AND MISSISSIPPI RIVER
Skuna River
CANAL
SKUNA RIVER

0 ½ Mile Scale 1:15 840 0 3 000 Feet

0 ½ Mile Scale 1:15 840 0 3 000 Feet

40

N

R. 1 W.

T. 13 S.

(Joins sheet 33)

(Joins sheet 39)

(Joins sheet 41)

(Joins sheet 47)

BRUCE

CANAL

RIVER

SKUNA

SKUNA RIVER

Camp Ground Branch

Thompson's Creek

Cowpen Springs Creek

0 ½ Mile

Scale 1:15 840

0 3 000 Feet


R. 1 W.
(Joins sheet 34)
T. 13 S.
(Joins sheet 40)
(Joins sheet 42)
(Joins sheet 48)
N
CHICKASAW MERIDIAN
Old Town Church
Ground
Camp
Thompson's
Creek
1
2
3
10
11
12
0
½ Mile
Scale 1:15 840
0
3 000 Feet


N
(Joins sheet 35)
R. 1 E.
T. 13 S.
(Joins sheet 41)
(Joins sheet 43)
CHICKASAW MERIDIAN
(Joins sheet 49)
Loyd
Walnut Creek
Flat Prairie Creek
6
5
4
7
8
9
CrE
Fb
Gu
PrC3
CrE3
PrC2
DuC3
DuB3
DuC2
DuB2
CrD3
CrD
Co
Tc
Fa
Wa
BuB2
BuC
PrB3
0
½ Mile
Scale 1:15 840
0
3 000 Feet


N
R. 1 E.
(Joins sheet 36)
T. 13 S.
(Joins sheet 42)
CHICKASAW COUNTY
(Joins sheet 50)
Creek
Creek
Creek
Lack
Corn
1
2
3
10
11
12
0
½ Mile
Scale 1:15 840
0
3 000 Feet

N

(Joins sheet 37)

R. 8 E.

T. 24 N.

(Joins sheet 45)

COUNTY
YALOBUSHA

Zion Springs Church

Pittman

East VALLEY

Hurricane Creek

Dog Creek

Burkes Creek

MISSISSIPPI AND SKUNA

CANAL

RIVER

SKUNA RIVER

GRENADA RESERVOIR

18 17 16 19 20 21

indian mound

MISSISSIPPI STATE GAME & FISH COMMISSION
CALHOUN COUNTY REFUGE

(Joins sheet 51)

0 ½ Mile Scale 1:15 840 0 3 000 Feet


N
(Joins sheet 38)
R. 8 E.
T. 24 N.
SKUNA RIVER
CANAL
CHOCTAW DISTRICT
CHICKASAW DISTRICT
15
14
13
22
23
24
Clear Springs Church
Burkes Creek
Poster Creek
MISSISSIPPI STATE GAME & FISH COMMISSION
CALHOUN COUNTY REFUGE
(Joins sheet 44)
(Joins sheet 53) | (Joins sheet 46)
(Joins sheet 52)
0 ½ Mile
Scale 1:15 840
0 3 000 Feet

N

(Joins sheet 39)

R. 2 W.

(Joins sheet 45) | (Joins sheet 38)

T. 13 S.

(Joins sheet 47)

CHOCTAW / CHICKASAW DISTRICT

16 15 14 13

21 22 23 24

Bridges Chapel

Big Creek

(Joins sheet 53)

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

R. 1 W.

(Joins sheet 40)

T. 13 S.

(Joins sheet 46)

(Joins sheet 48)

PITTSBORO
(county seat)

Gaston Springs Church

Hurricane Creek

Huffman Creek

Twin Creek

Spring Camp

18 17 16 19 20 21

(Joins sheet 54)

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

(Joins sheet 41)

R. 1 W.

T. 13 S.

CHICKASAW MERIDIAN

(Joins sheet 47)

(Joins sheet 49)

(Joins sheet 55)

15 14 13 22 23 24

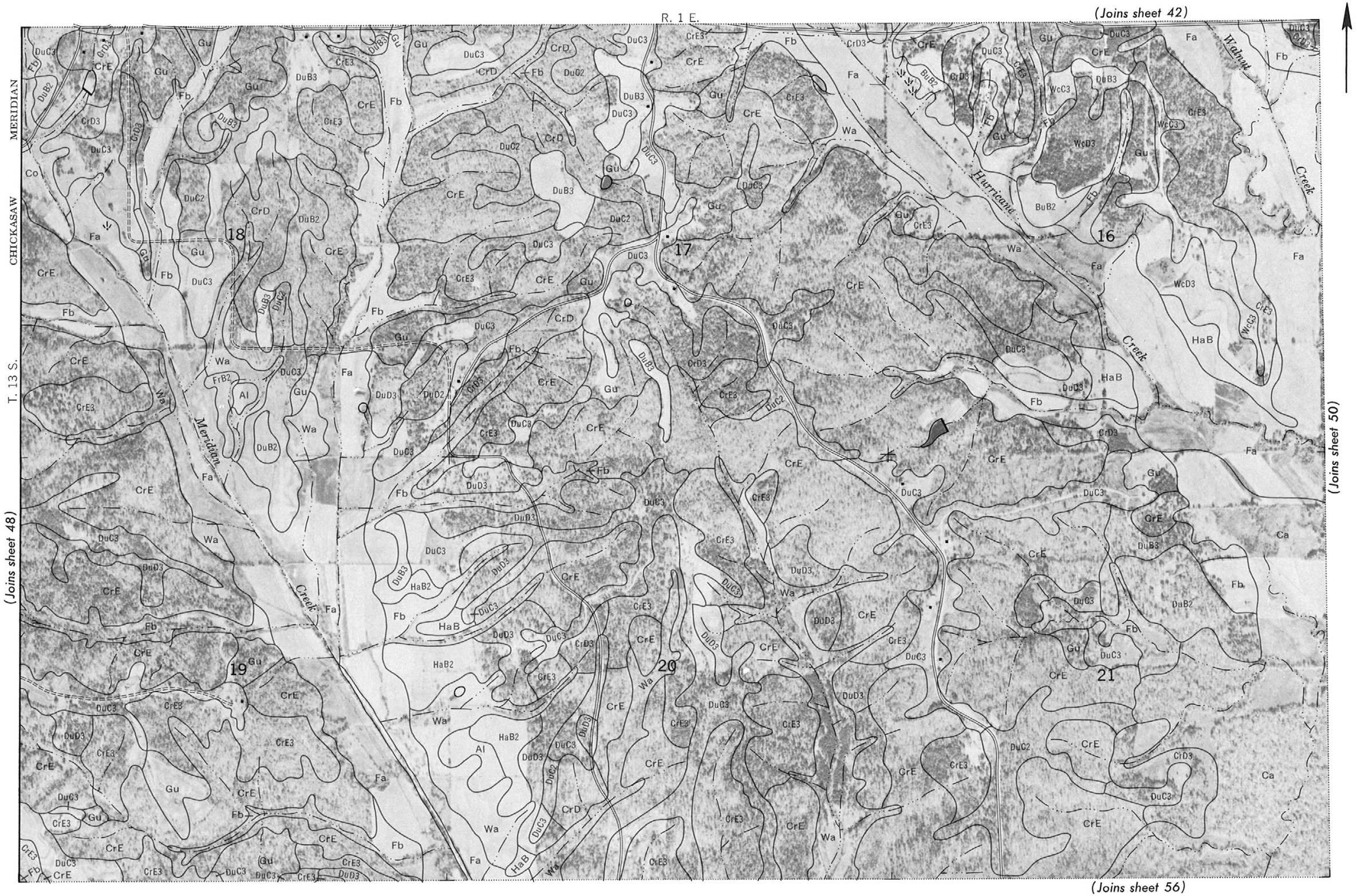
CrE CrE3 CrD CrD3 PrC3 PrD3 PrC2 DuC3 DuC2 DuD3 CtD3 HaB2 Gu Fb Wa Co Fa Cm

Dancom Creek

0 ½ Mile

Scale 1:15 840

0 3 000 Feet



0 ½ Mile Scale 1:15 840 0 3 000 Feet

50

N

(Joins sheet 43)

R. 1 E.

T. 13 S.

CHICKASAW COUNTY

(Joins sheet 49)

(Joins sheet 57)

Creek

Cairo Creek

Walnut Creek

Cook Creek

Gordon Branch

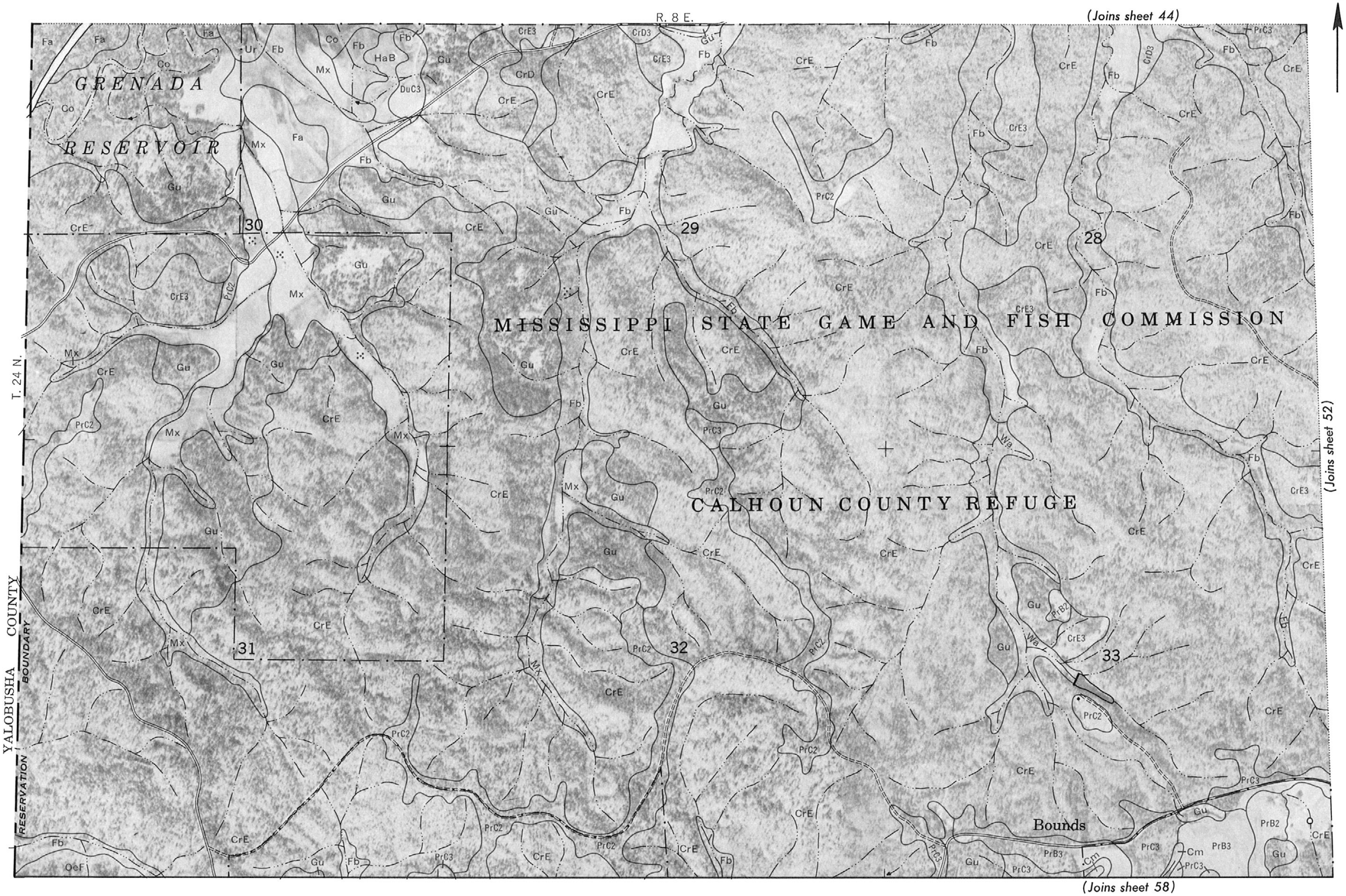
15 14 13

22 23 24

0 ½ Mile

Scale 1:15 840

0 3 000 Feet



0 ½ Mile Scale 1:15 840 0 3 000 Feet

52

N

(Joins sheet 45)

R. 8 E.

MISSISSIPPI STATE GAME AND FISH COMMISSION

CALHOUN COUNTY REFUGE

Mt Tabor Church

Tabernacle Church

Burkes Creek

Lacking Creek

Rocky Branch

CHICKASAW DISTRICT

CHOCTAW

27 26 25

34 35 36

T. 24 N.

(Joins sheet 51)

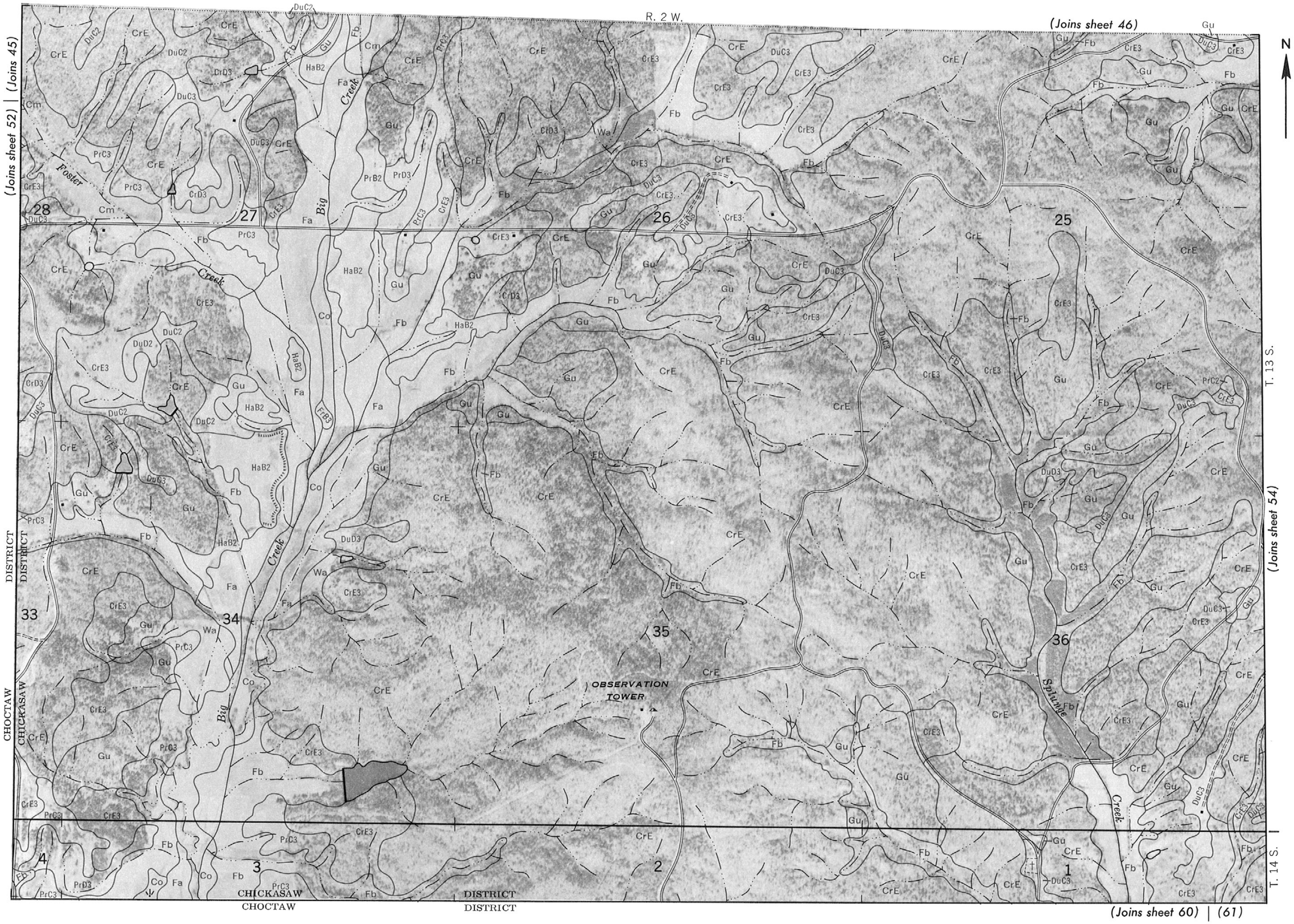
(Joins sheet 53)

(Joins sheet 59)

0 ½ Mile

Scale 1:15 840

0 3 000 Feet



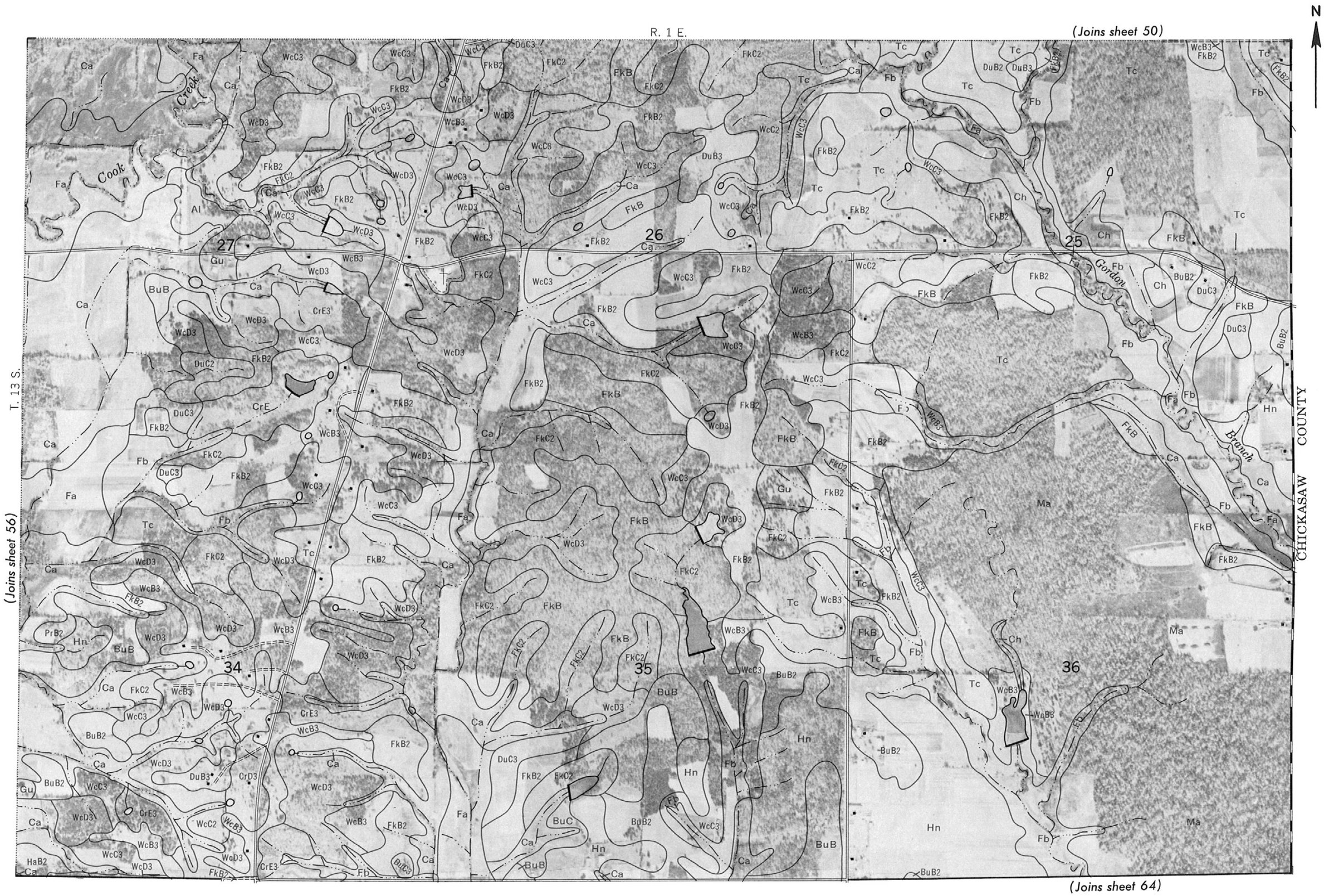
0 ½ Mile Scale 1:15 840 0 3 000 Feet

54

0 ½ Mile Scale 1:15 840 0 3 000 Feet


R. 1 W.
(Joins sheet 48)
T. 13 S.
(Joins sheet 54)
(Joins sheet 56)
(Joins sheet 62)
CHICKASAW MERIDIAN
N
Anderson Creek
Creek
Duncan
25
26
27
34
35
36
0
½ Mile
Scale 1:15 840
0
3 000 Feet


N
(Joins sheet 49)
R. 1 E.
T. 13 S.
(Joins sheet 55)
(Joins sheet 57)
(Joins sheet 63)
CHICKASAW MERIDIAN
MERIDIAN
CANAL
Creek
Dry
Cook
Fa Creek
30
29
28
31
32
33
CrE3
CrE
DuC3
DuD3
Gu
Fb
Wa
PrC3
PrC2
PrD3
PrD2
DuD2
HaB2
BuB2
Fa
Al
Ca
Tc
CrD
HaB
DuC2
FkB2
FkC2
FkB
WcD3
DuB2
BuB
Scale 1:15 840
0
½ Mile
0
3 000 Feet



0 ½ Mile Scale 1:15 840 0 3 000 Feet

58

N

(Joins sheet 51)

R. 8 E.

T. 23 N.

(Joins sheet 59)

(Joins sheet 65)

YALOBUSHA COUNTY

MISSISSIPPI STATE GAME & FISH COMMISSION
CALHOUN COUNTY REFUGE
BOUNDARY

CALHOUN COUNTY REFUGE

MISSISSIPPI STATE GAME & FISH COMMISSION
CALHOUN COUNTY REFUGE

Savannah Creek

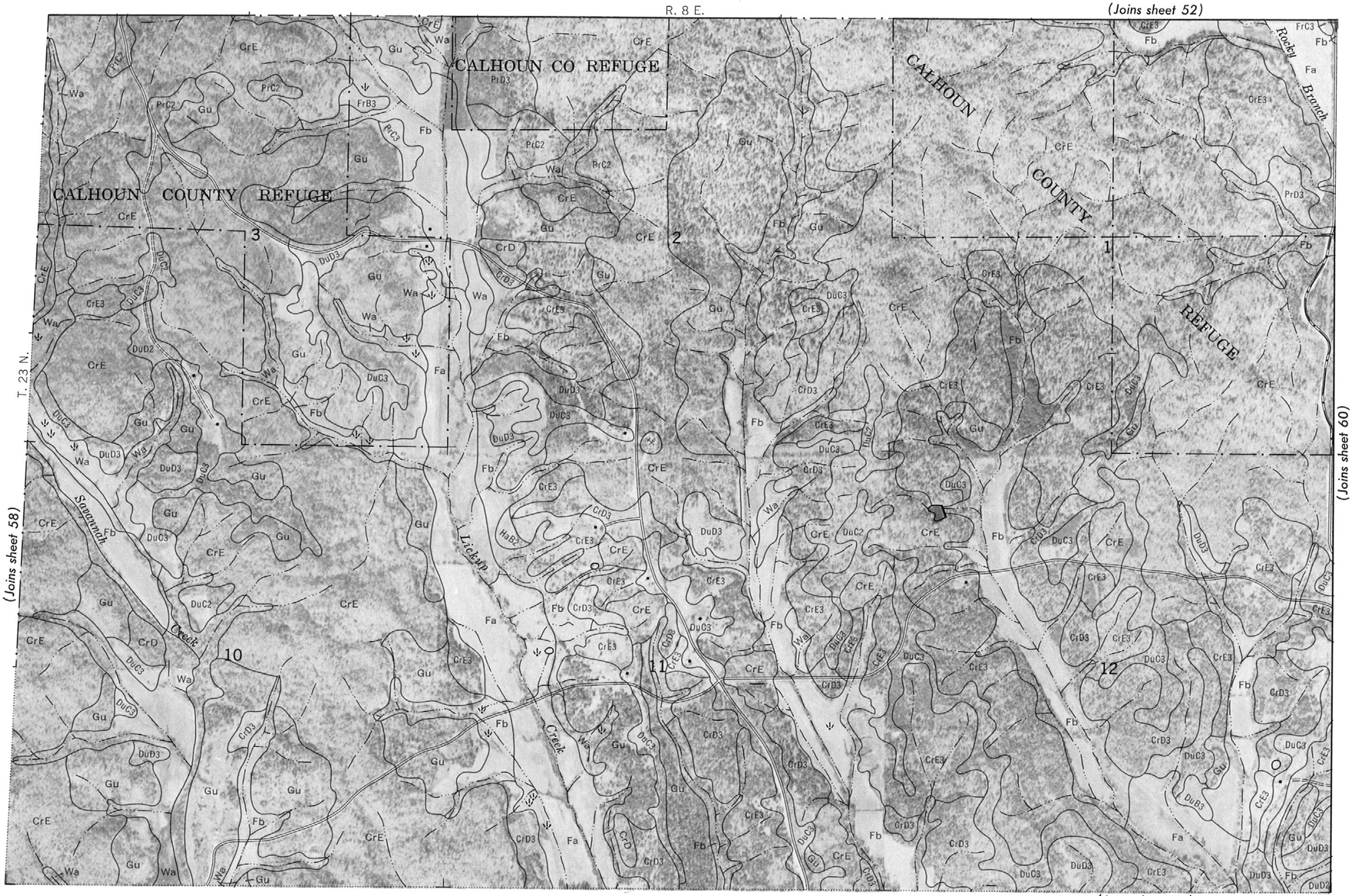
Coles Creek

6 5 4 7 8 9

0 ½ Mile

Scale 1:15 840

0 3 000 Feet



0 ½ Mile Scale 1:15 840 0 3 000 Feet

60

N

(Joins sheet 53)

CHICKASAW CHOCTAW DISTRICT

DISTRICT

Rocky Branch

Big Creek

Spring Creek

Sphinge

(Joins sheet 59)

(Joins sheet 61)

(Joins sheet 67)

T. 23 N.

R. 9 E.

0 ½ Mile Scale 1:15 840 0 3 000 Feet

(Sheet 53) | (Joins sheet 54)

0 ½ Mile Scale 1:15 840 0 3 000 Feet

62

N

(Sheet 54) | (Joins sheet 55)

R. 1 W.

DISTRICT

CHICKASAW MERIDIAN

T. 14 S.

(Joins sheet 61)

(Joins sheet 63)

CHOCTAW

Oak Spring Church

Miles Creek

Duncan Creek

Duncan Hill Church

(Joins sheet 69)

0 ½ Mile Scale 1:15 840 0 3 000 Feet


N
R. 1 E.
(Joins sheet 56)
CHICKASAW MERIDIAN
T. 14 S.
New Liberty Church
Mt Herman Church
MERIDIAN
CANAL
Dry Creek
Cook Creek
(Joins sheet 62)
(Joins sheet 64)
(Joins sheet 70)
0 ½ Mile
Scale 1:15 840
0 3 000 Feet

64

N

(Joins sheet 57)

R. 1 E.

T. 14 S.

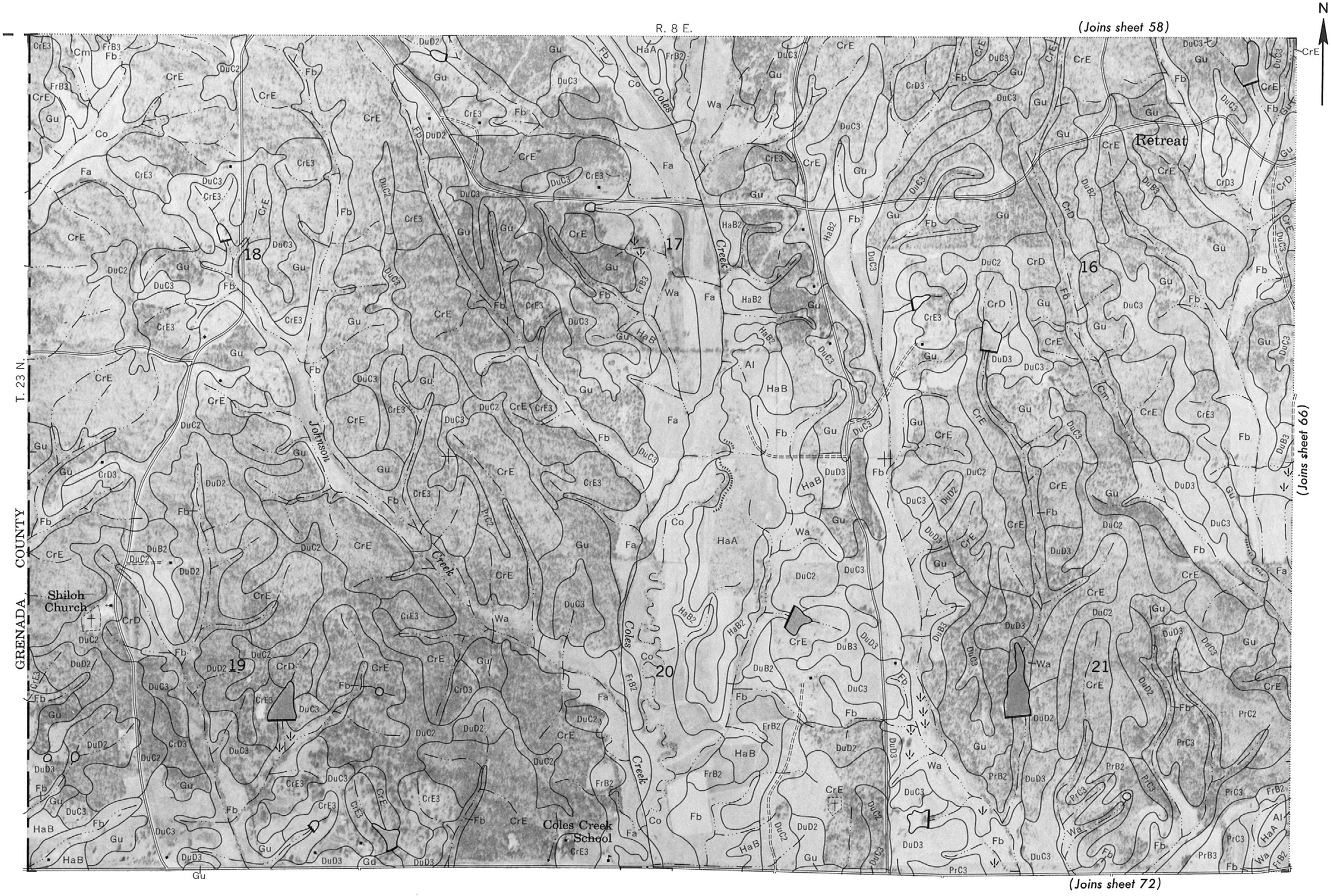
(Joins sheet 63)

VARDAMAN

CHICKASAW COUNTY

(Joins sheet 71)

0 ½ Mile Scale 1:15 840 0 3 000 Feet



0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

(Joins sheet 59)

R. 8 E.

T. 23 N.

(Joins sheet 65)

(Joins sheet 67)

(Joins sheet 73)

Chapel Hill Church

Big Creek

Savannah Creek

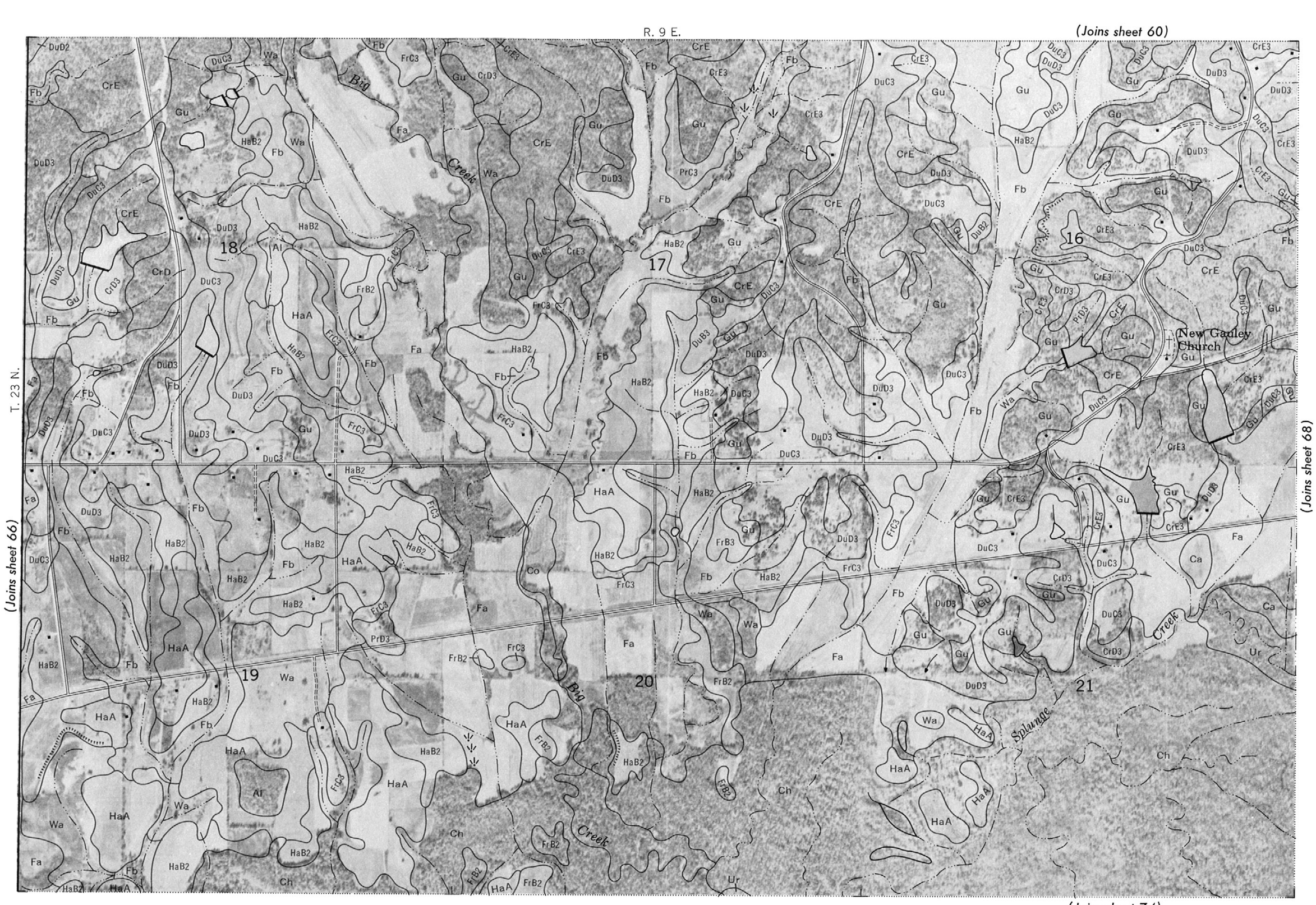
Lackrup Creek

15 14 13 22 23 24

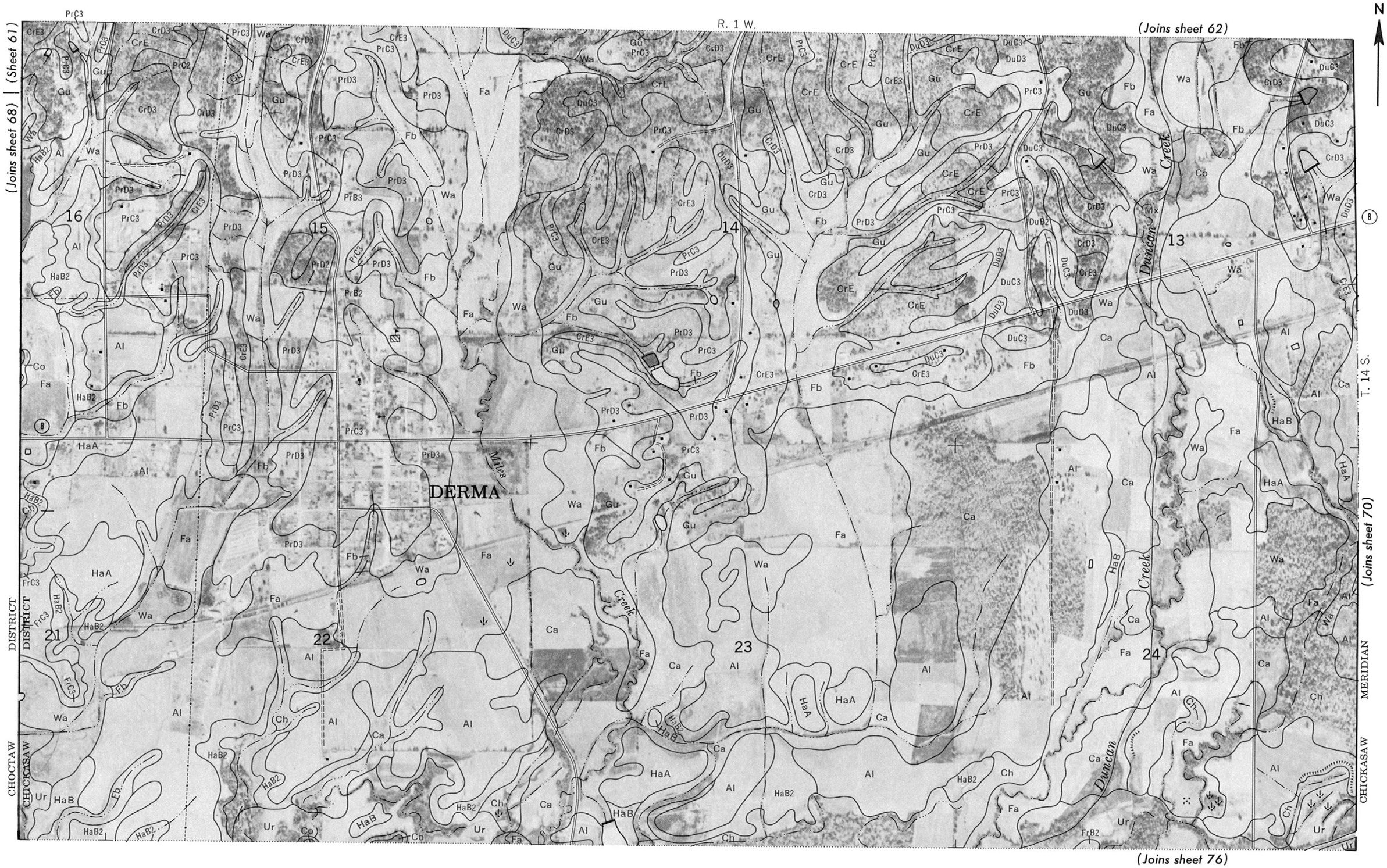
0 ½ Mile

Scale 1:15 840

0 3 000 Feet


R. 9 E.
(Joins sheet 60)
N
T. 23 N.
(Joins sheet 66)
(Joins sheet 68)
(Joins sheet 74)
18
17
16
19
20
21
New Gauley Church
Big Creek
Splunge Creek
Big Creek
Creek
DuD2
DuC3
DuD3
CrE
CrE3
CrD
CrD3
Fb
Wa
Gu
HaB2
HaA
Al
FrB2
FrC3
Fa
CrD3
PrC3
DuB3
FrB3
PrD3
Co
Ar
Ch
Ca
Ur
0
½ Mile
Scale 1:15 840
0
3 000 Feet


N
(Joins sheet 61)
R. 9 E.
T. 23 N.
CALHOUN CITY
Martin Lakes
YALOBUSHA RIVER
YALOBUSHA RIVER CANAL
Hurricane Creek
Spring Creek
CHICKASAW DISTRICT
CHOCTAW DISTRICT
15
14
13
22
23
24
(Joins sheet 67)
(Joins sheet 75)
(Joins sheet 69)
(Sheet 76)
0 ½ Mile
Scale 1:15 840
0 3 000 Feet

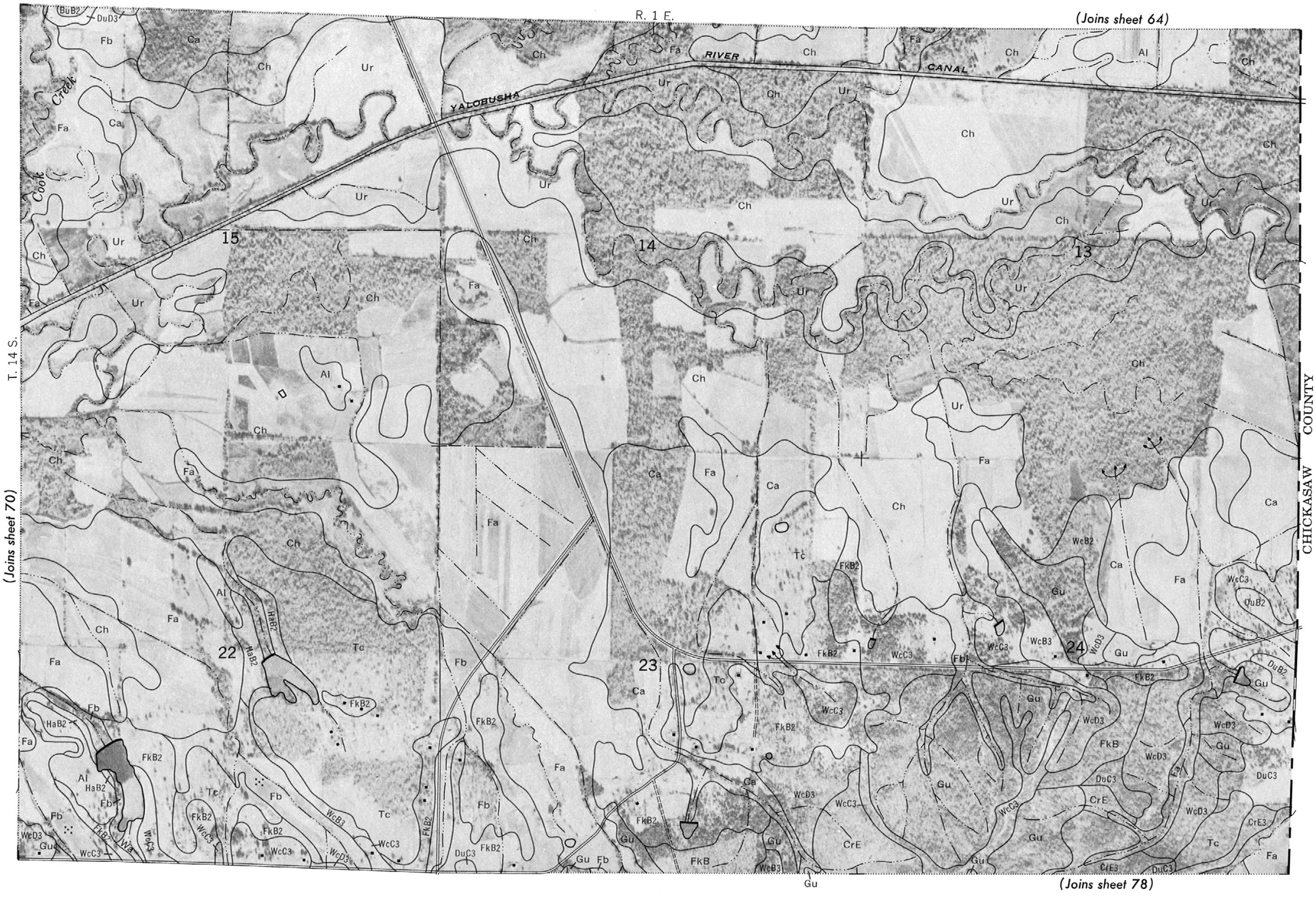


0 ½ Mile Scale 1:15 840 0 3 000 Feet

70

N

0 ½ Mile Scale 1:15 840 0 3 000 Feet



0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

(Joins sheet 65)

R. 8 E.

T. 23 N.

(Joins sheet 73)

GRENADA COUNTY

(Joins sheet 79)

GRENADA RESERVOIR

YALOBUSHA RIVER

Coles Creek

Gaines Creek

Indian mound

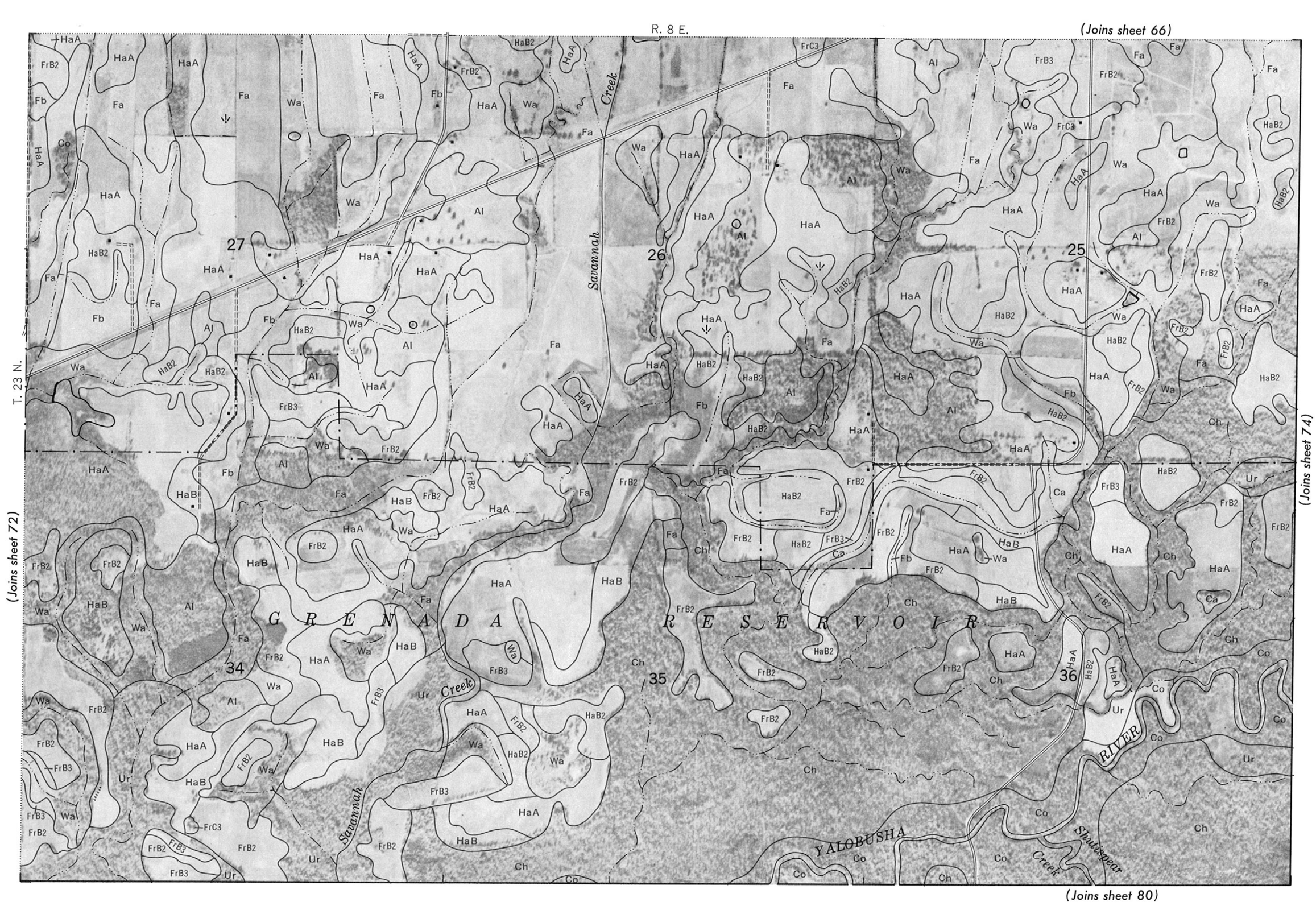
30 29 28 31 32 33

DuC3 DuD3 DuC2 DuD2 DuB3 CrE CrE3 PrC3 PrD3 PrB3 FrB2 FrB3 FrC3 HaB2 HaA HaB Co Fb Gu Cm Wa Fa Al Ur

0 ½ Mile

Scale 1:15 840

0 3 000 Feet


N
R. 8 E.
T. 23 N.
(Joins sheet 66)
(Joins sheet 72)
(Joins sheet 74)
(Joins sheet 80)
Savannah Creek
Ur Creek
Savannah
YALOBUSHA RIVER
Shuttspear Creek
GRENADA RESERVOIR
27
26
25
34
35
36
HaA
HaB
HaB2
FrB2
FrB3
FrC3
Fa
Fb
Wa
Al
Co
Ch
Ca
Ur
0
½ Mile
Scale 1:15 840
0
3 000 Feet

74

N

R. 9 E.

T. 23 N.

(Joins sheet 67)

(Joins sheet 73)

(Joins sheet 75)

(Joins sheet 81)

YALOBUSHA RIVER

YALOBUSHA CANAL

TOPASHAW CREEK CANAL

Morgan Branch

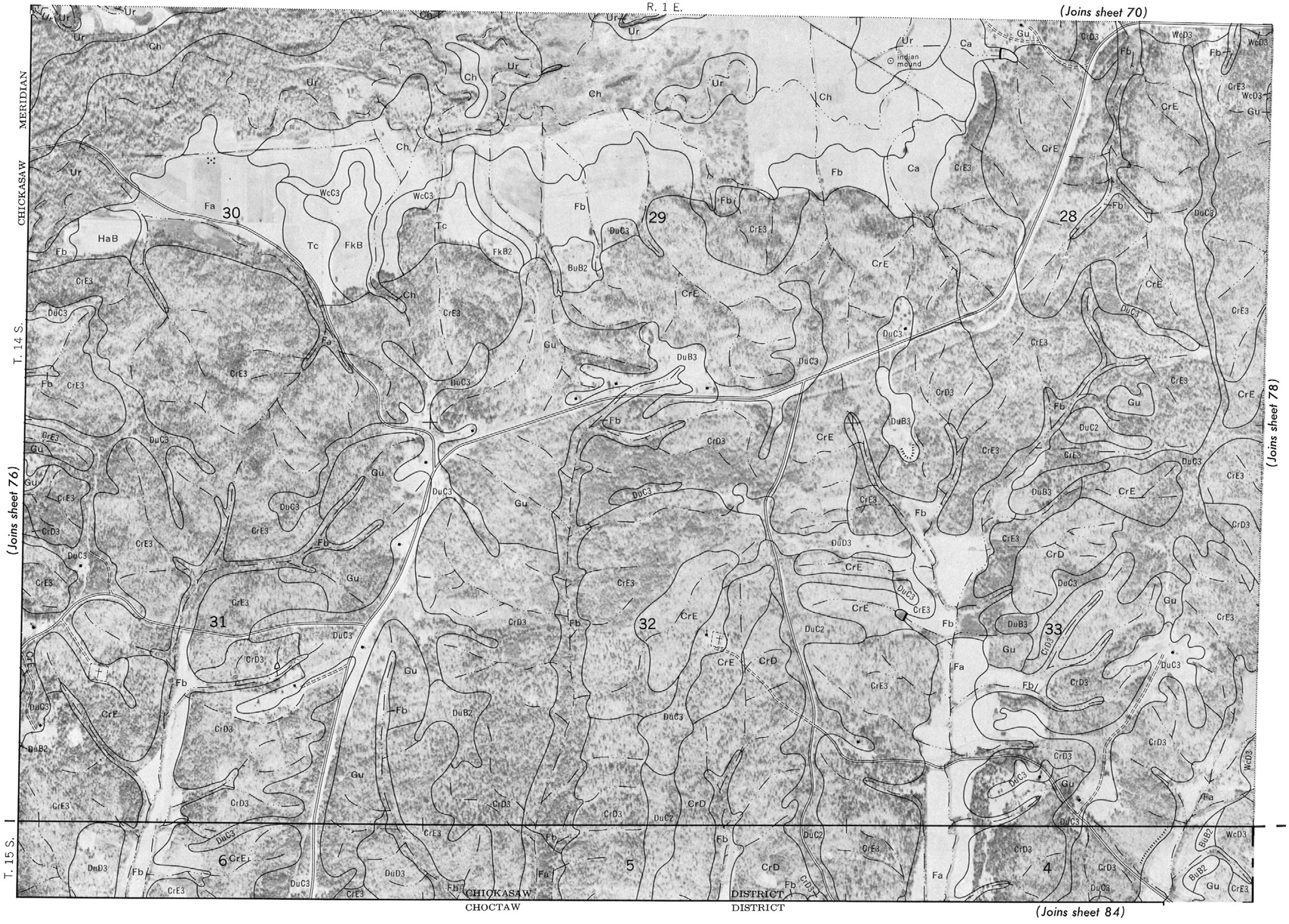
GRENADA RESERVOIR

29 30 28 31 32 33

0 ½ Mile Scale 1:15 840 0 3 000 Feet


R. 9 E.
(Joins sheet 68)
T. 23 N.
(Joins sheet 74)
(Joins sheet 76)
(Joins sheet 82)
N
YALOBUSHA RIVER
YALOBUSHA RIVER CANAL
Topashaw Creek
BORROW PIT
TOPASHAW CREEK CANAL
CHOCTAW DISTRICT
CHICKASAW DISTRICT
26
27
25
34
35
36
0 ½ Mile
Scale 1:15 840
0 3 000 Feet


(Joins sheet 69)
R. 1 W.
N
(Joins sheet 75) | (Sheet 68)
YALOBUSHA RIVER
CANAL
Benela Church
Pine Grove Church
CHICKASAW MERIDIAN
T. 14 S.
T. 15 S.
DISTRICT
CHOCTAW
CHICKASAW
CHOCTAW DISTRICT
(Joins sheet 77)
(Joins sheet 83) | (Joins sheet 84)
0 ½ Mile
Scale 1:15 840
0 3 000 Feet


R. 1 E.
(Joins sheet 70)
N
CHICKASAW MERIDIAN
T. 14 S.
T. 15 S.
(Joins sheet 76)
(Joins sheet 78)
(Joins sheet 84)
30
29
28
31
32
33
6
5
4
indian mound
CHICKASAW
CHOCTAW
DISTRICT
DISTRICT
0 ½ Mile
Scale 1:15 840
0 3 000 Feet

78

N

(Joins sheet 71)

R. 1 E.

(Joins sheet 77)

T. 14 S.

Midway Church

Midway Church

CHICKASAW COUNTY

CHICKASAW COUNTY

0 ½ Mile

Scale 1:15 840

0 3 000 Feet

0 ½ Mile Scale 1:15 840 0 3 000 Feet

80

N

(Joins sheet 73)

R. 8 E.

T. 22 N.

(Joins sheet 79)

(Joins sheet 81)

(Joins sheet 86)

YALOBUSHA RIVER

Sarannah Ck.

SHUTESPEAR CREEK

GRENADA RESERVOIR

1 2 3 10 11 12

8

0 ½ Mile

Scale 1:15 840

0 3 000 Feet

R. 9 E.

(Joins sheet 74)

T. 22 N.

(Joins sheet 80)

(Joins sheet 82)

(Joins sheet 87)

N

GRENADA RESERVOIR

Shuttispear Creek

McPhail Br

BORROW PIT

Cross Road Church

St James Church

Pleasant Hill Church

0 ½ Mile Scale 1:15 840 0 3 000 Feet

82

N

(Joins sheet 75)

R. 9 E.

T. 22 N.

(Joins sheet 81)

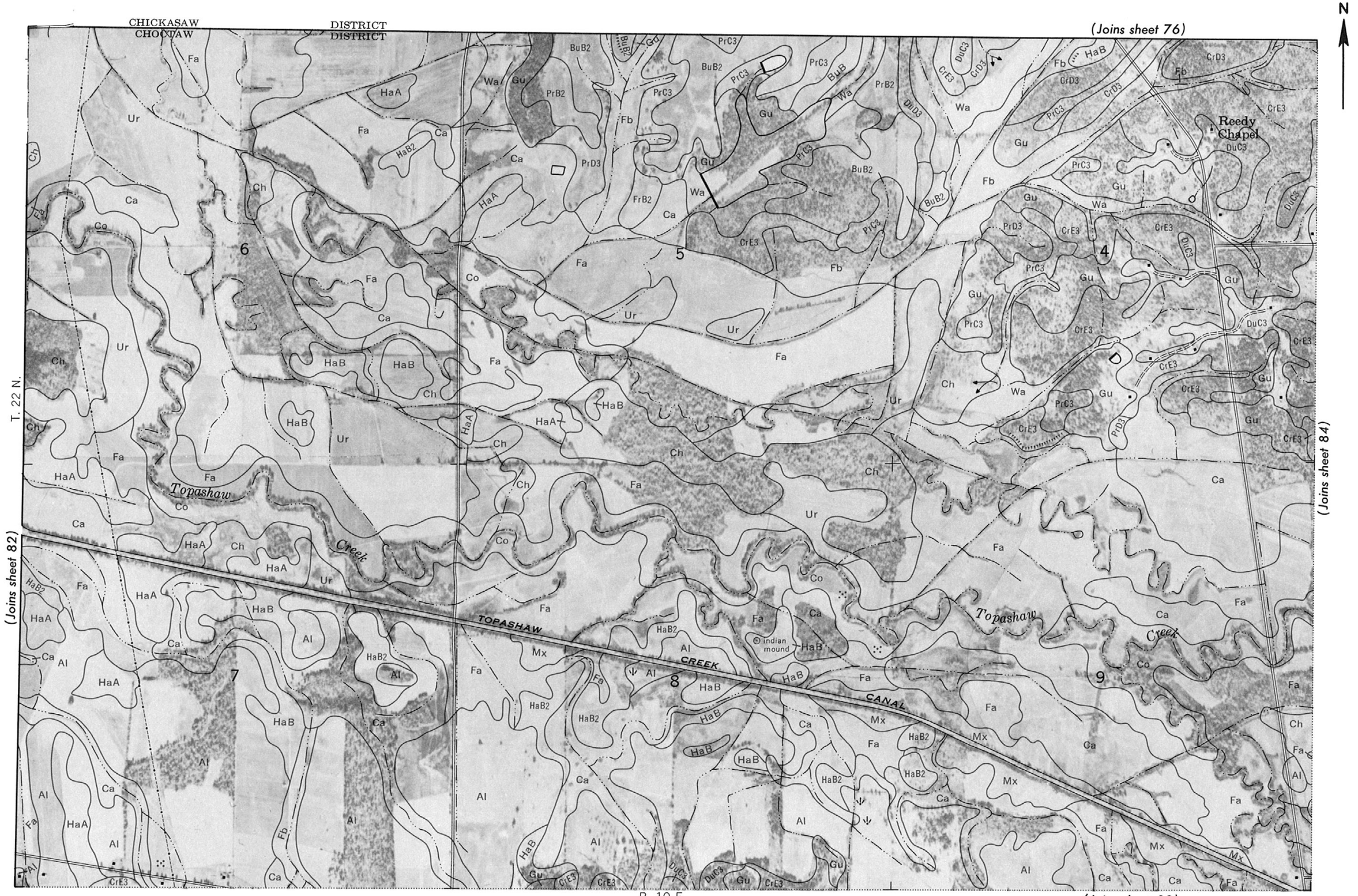
(Joins sheet 83)

(Joins sheet 88)

TOPASHAW CREEK CANAL

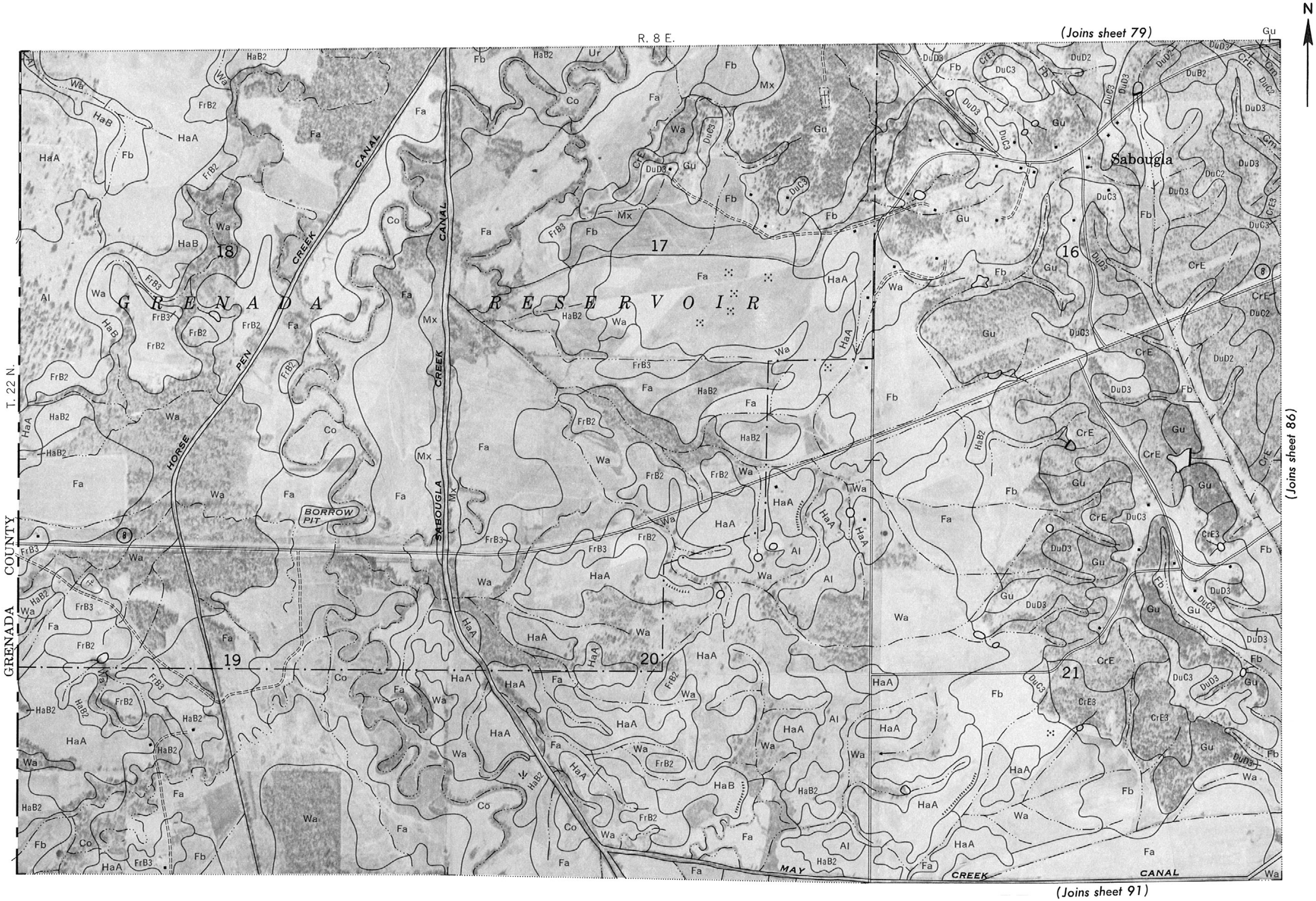
Topashaw Creek

0 ½ Mile Scale 1:15 840 0 3 000 Feet



0 ½ Mile Scale 1:15 840 0 3 000 Feet

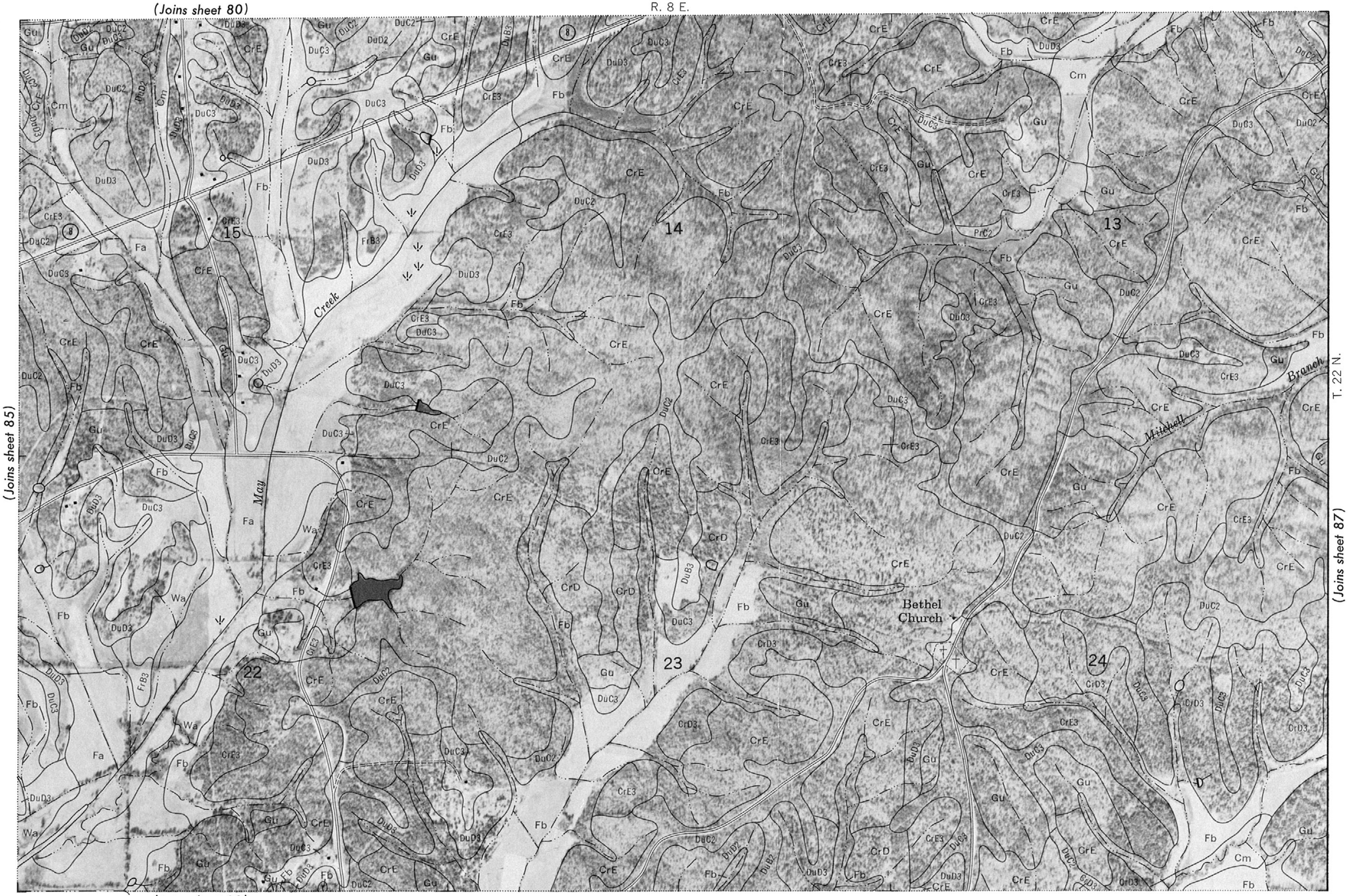

N
(Joins sheet 76) | (Joins sheet 77)
CHICKASAW
CHOCTAW
DISTRICT
DISTRICT
R. 1 E.
T. 22 N.
T. 15 S.
(Joins sheet 83)
(Joins sheet 90)
R. 10 E.
CHOCTAW
CHICKASAW
CHICKASAW
COUNTY
Topashaw
Creek
Bear
Creek
indian mound
indian mound
1
2
3
4
9
10
11
12
0
½ Mile
Scale 1:15 840
0
3 000 Feet


N
R. 8 E.
T. 22 N.
GRENADA COUNTY
(Joins sheet 79)
(Joins sheet 86)
(Joins sheet 91)
GRENADA RESERVOIR
PEN CREEK CANAL
CREEK CANAL
HORSE CREEK CANAL
SABOUGLA CREEK
BORROW PIT
MAY CREEK CANAL
Sabougla
16
17
18
19
20
21
HaA
HaB2
HaB
FrB2
FrB3
Fa
Fb
Wa
Al
Co
Mx
Ur
Gu
DuD3
DuC3
DuD2
DuB2
DuC2
CrE
CrE3
Cm
0
½ Mile
Scale 1:15 840
0
3 000 Feet

N

(Joins sheet 80)

R. 8 E.



(Joins sheet 85)

(Joins sheet 87)

T. 22 N.

(Joins sheet 92)

0 ½ Mile Scale 1:15 840 0 3 000 Feet

(Joins sheet 81)

R. 9 E.

N

T. 22 N.

(Joins sheet 86)

(Joins sheet 88)

(Joins sheet 93)

0 ½ Mile Scale 1:15 840 0 3 000 Feet

88

N

(Joins sheet 82)

R. 9 E.

T. 22 N.

(Joins sheet 87)

(Joins sheet 89)

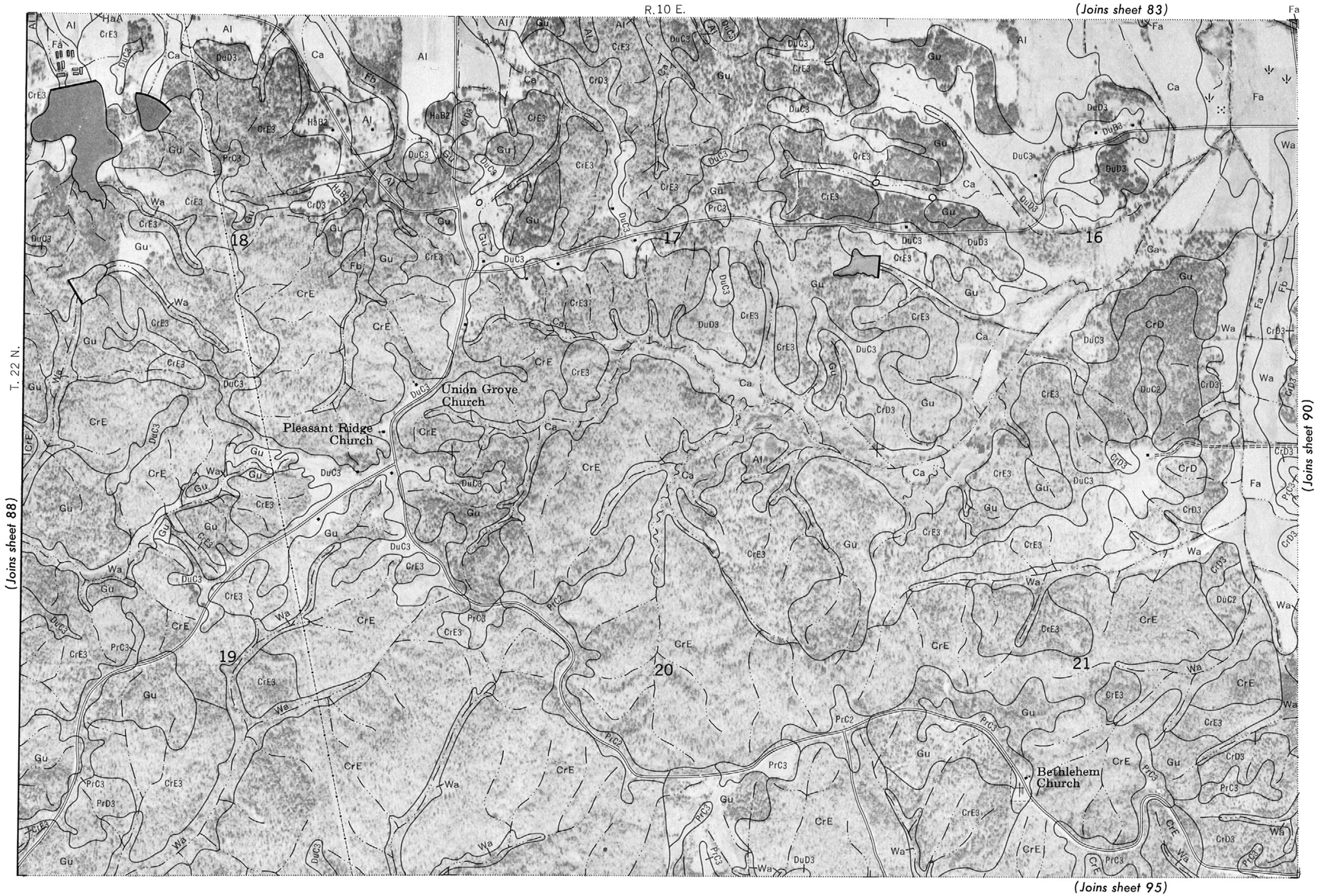
(Joins sheet 94)

Shutispear Creek

0 ½ Mile

Scale 1:15 840

0 3 000 Feet


R.10 E.
(Joins sheet 83)
N
T. 22 N.
(Joins sheet 88)
(Joins sheet 90)
(Joins sheet 95)
Union Grove Church
Pleasant Ridge Church
Bethlehem Church
16
17
18
19
20
21
Al
Ca
CrE
CrE3
CrD
CrD3
DuC2
DuC3
DuD3
Fa
Fb
Gu
HaA
HaB2
PrC2
PrC3
PrD3
Wa
0
½ Mile
Scale 1:15 840
0
3 000 Feet


N
(Joins sheet 84)
R. 10 E.
R. 1 E.
T. 22 N.
T. 15 S.
(Joins sheet 89)
(Joins sheet 96)
TOPASHAW CREEK CANAL
Buck Creek
Creek
Indian mound
DISTRICT
DISTRICT
CHOCTAW
CHICKASAW
CHICKASAW COUNTY
13
14
15
16
21
22
23
24
Fa
Ca
Co
Ur
Al
Wa
Ch
Gu
CrE
CrE3
CrD
CrD3
DuC3
DuC2
DuD3
DuD2
DuB2
DuC8
PrC3
PrD3
PrC2
PrD2
PrB2
HaA
HaB2
Fb
BuB2
MX
0
½ Mile
Scale 1:15 840
0
3 000 Feet


N
R. 8 E.
(Joins sheet 85)
(Joins sheet 92)
T. 22 N.
GRENADA COUNTY
WEBSTER COUNTY
Horse Pen School
Bradford Chapel
Indian mound
MAY CREEK CANAL
SABOUGLA CREEK
CANAL
Little Horse Pen Creek
Horse Pen Creek
Horse Creek
29
30
31
32
28
33
0 ½ Mile
Scale 1:15 840
0 3 000 Feet

92

N

(Joins sheet 86)

R. 8 E.

T. 22 N.

(Joins sheet 91)

(Joins sheet 93)

Dentontown

27 26 25

34 35 36

SABOUGLA CREEK CANAL

WEBSTER COUNTY

0 ½ Mile Scale 1:15 840 0 3 000 Feet

R. 9 E.

(Joins sheet 87)

T. 22 N.

(Joins sheet 92)

(Joins sheet 94)

N

Slate Springs

30 29 28 31 32 33

WEBSTER COUNTY

0 ½ Mile Scale 1:15 840 0 3 000 Feet

94

N

(Joins sheet 88)

R. 9 E.

T. 22 N.

(Joins sheet 93)

(Joins sheet 95)

Shutispear Creek

Springhill Church

indian mound

27 26 25 34 35 36

WEBSTER COUNTY

0 ½ Mile Scale 1:15 840 0 3 000 Feet

N

R. 10 E.

(Joins sheet 89)

T. 22 N.

(Joins sheet 94)

(Joins sheet 96)

30 29 28 31 32 33

Shuttspear Creek

WEBSTER COUNTY

0 ½ Mile Scale 1:15 840 0 3 000 Feet

CALHOUN COUNTY, MISSISSIPPI — SHEET NUMBER 96

0 ½ Mile Scale 1:15 840 0 3 000 Feet